

CHARACTERISTICS THAT ENHANCE TRAINING EFFECTIVENESS IN IMPLEMENTING TECHNOLOGICAL CHANGE IN SALES STRATEGY: A FIELD-BASED EXPLORATORY STUDY

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Organizations are increasingly emphasizing online sales channels over traditional offline sales channels. This research examines how training influences a salesperson's ability to manage such a technological change in the firm's sales strategy. Findings suggest that formality of training has a positive effect and voluntariness has a negative effect on the perceived effectiveness of training in a change implementation context. Older salespeople and those likely to be favorably affected by the change respond more positively to timely training and a less formal training format. Training effectiveness in turn has a positive influence on the salesperson's perceived ability to manage the change, with learning orientation of the salesperson weakening the effect. Implications for the design of sales force automation and change implementation training programs are discussed.

The past two decades have witnessed an increasing focus on information technology in marketing and a concurrent explosion in organizational investment in sales force automation (SFA) technologies (Murthy et al. 2008; Speier and Venkatesh 2002). Due to potential efficiencies in cost, customer relationship management, and supply chain management (Buttle, Ang, and Iriana 2006; Erffmeyer and Johnson 2001), many organizations are changing the firm's sales strategy from relying primarily on offline channels (i.e., salespeople) to online channels (i.e., Internet sales) for going to market. Despite significant investments, the failure rate of such technological initiatives is high (Erffmeyer and Johnson 2001); salespeople often reject such efforts due to inability, unwillingness, or disinterest in implementing the change (Bush, Moore, and Rocco 2005; Buttle, Ang, and Iriana 2006; Speier and Venkatesh 2002).

In general, SFA is defined as the application of information technology to support the sales function (Buttle, Ang, and Iriana 2006). Burkhardt and Brass (1990) note that

technologies can be regarded as being competence enhancing or competence destroying, based on the perceptions of its users. Competence-enhancing technologies are seen as enriching existing skills, knowledge, and relationships, whereas competence-destroying technologies are seen as rendering these obsolete. An increasing emphasis on online channels at the expense of the traditional offline channel (i.e., salespeople) can be seen by the salespeople as a loss of commission and customer contact in the short run and as a potential threat to job security in the long run.

In addition to incorporating elements of SFA, an increasing emphasis on online sales channels by a traditional brick-and-mortar business represents a fundamental change in the sales strategy of the organization, and hence could be viewed from a *strategic change implementation* perspective. Hurley (1998) notes that strategic change implementation remains among the most challenging responsibilities of senior marketing and sales managers.

Environmental changes, such as the technological changes mentioned above, have dramatically altered relationships between salespeople and organizations (Jones et al. 2005). These changes further necessitate a rethinking of sales force training and development efforts (Cron et al. 2005). In the present research, we focus on how characteristics of the training influence salespeople's implementation of a change in a firm's sales strategy from relying primarily on offline channels to online channels for going to market. In this context, successful implementation of change in sales strategy refers to salespeople getting their customers to transact business using the Internet rather than through them.

The present research builds on a long-standing interest in strategy implementation among marketing scholars (e.g., Bonoma and Crittenden 1988; Cespedes 1991; Hutt and

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Speh 1984; Piercy and Morgan 1994; Walker and Ruckert 1987). More recently, marketing researchers have turned attention to strategy implementation issues at the individual level (e.g., Noble and Mokwa 1999; Piercy 1998; Ye, Marinova, and Singh 2007). This study contributes to the literature on strategic change implementation and SFA by identifying previously unexplored dimensions of change-related training, examining their effect on the perceived effectiveness of the training and on the salesperson's perceived ability to manage the change. Findings of this study are relevant to managers tasked with implementing strategic change, especially technological change in sales strategy.

THEORETICAL BACKGROUND

Salespeople who feel confident in their ability to manage an organizational change are likely to exert greater effort in implementing the change (Kahn and Byosiere 1998; Lafferty and Griffin 2006; Lazarus and Folkman 1984). Thus, if a supervisor can influence a salesperson's perceived ability to manage a strategic change, he or she can influence the extent to which the salesperson implements the change.

Researchers note that supervisors can improve employees' ability to cope by providing them with resources, such as skill development and training, that increase their capacity to deal with stressful events such as technological or strategic changes in the workplace (e.g., Kahn and Byosiere 1998; Schurman and Israel 1995). Enabling actions (such as training) can lead to more favorable feedback about the change (Swanson and Power 2001) and to greater acceptance of change (Leiter and Harvie 1998).

Several studies on SFA also highlight the role of training as a major factor leading to the successful implementation, acceptance, and usage of SFA technologies (e.g., Buttle, Ang, and Iriana 2006; Jones, Sundaram, and Chin 2002; Murthy et al. 2008; Pullig, Maxham, and Hair 2002; Schillewaert et al. 2005). Largely, conceptualization and measurement of training in these studies range from (1) the amount of training received, (2) the percentage of employees trained, (3) the type of training provided (i.e., content), and (4) the perceived importance of the training to the organization (Tharenou, Saks, and Moore 2007). Cron et al. (2005) suggest that typical salesperson training programs can also vary along the following dimensions:

- standardization (i.e., common to all salespeople)
- top-down (i.e., management decides)
- mandated (i.e., nonvoluntary)
- structured (i.e., formal and centralized)
- classroom setting (by in-house or outside experts)

To the best of our knowledge, no previous study has validated empirically these or related dimensions and linked them

to the effectiveness of the training program in the context of change implementation. Prior research has focused largely on training in general, rather than on identifying characteristics of training that may facilitate change implementation. We therefore draw upon 37 field interviews at a large distributor of commercial goods to identify those aspects of training that would be relevant for change implementation. The purpose of these interviews was to draw on practitioners' insights and "theories-in-use" in order to identify aspects of training likely to be pertinent for effective change implementation (Argyris and Schon 1978; Zaltman, LeMasters, and Heffring 1982).

The field interviews suggested three aspects of training likely to be important determinants of effective change implementation. Interviewees felt that *timeliness* of training was likely to be crucial in helping salespeople learn their new roles and implement them effectively. Similarly, the interviewees alluded to potential benefits of *formality* of the training (as opposed to letting salespeople decide their own training content, sequence, structure, and pacing). Formality of training encompasses elements of standardization, structure, and setting suggested by Cron et al. (2005). Lastly, consistent with the dimension of mandated training discussed by Cron et al. (2005), salespeople in our interviews alluded to variations in the extent to which they perceived the training to be *voluntary* or required. A key idea emerging from these interviews was the notion that training that is voluntary may be perceived as being less important and of relatively lower quality. There was a fair amount of variance across sales branches in the timeliness, formality, and voluntariness of the training provided to salespeople.

In the following sections, we draw upon previous research to develop formal hypotheses linking the three dimensions of timeliness, formality, and voluntariness to the perceived effectiveness of the training and to the subsequent ability of salespeople to manage the strategic change. We also explore the moderating effects of perceived impact, salesperson age, and learning orientation on some of the above relationships. Next, using data from a survey of 828 salespeople, we test these hypotheses and find support for most of them.

HYPOTHESIS DEVELOPMENT

Training Characteristics and the Perceived Effectiveness of Training

Providing training to individuals before stressful events, such as change, are introduced into the organization is a proactive approach that may help prevent interpersonal conflict among colleagues (Cooper, Dewe, and O'Driscoll 2001). Research has found that employees need to spend time with a new technology before they feel that they have mastered it (Conner and Rumelt 1991). However, previous research has

not examined employee sensitivity to the timing of training in a change implementation context. *Timeliness* is defined as the degree to which the salesperson feels that he or she received change-related training at an opportune time relative to the push for change at their branch.

Swanson and Power (2001) suggest that enabling actions that provide functional coping skills leads to more favorable feedback on the intervention and the change. In the context under study, salespeople at different branches, or even within the same branch, received training at different times. Some salespeople interviewed during the exploratory phase of this project complained that training was not timely. One salesperson commented:

The [salespeople] don't push [online sales] as much because they don't know much about it. . . . They are not trained in it. They are hesitant. I am receiving my training now for the first time—four years after the fact!

Based on our qualitative data, we expect a positive correlation between perceived timeliness of the training and evaluations of training effectiveness. *Training effectiveness* refers to the degree to which the salespeople perceive the training as providing useful information and skills related to the change. Thus, we posit that

Hypothesis 1: Timeliness of change-related training will be positively related to the perceived effectiveness of the training.

During exploratory interviews, a few salespeople indicated that the self-paced online training available to them was helpful, but many expressed a desire for more traditional, structured training. For example, one salesperson observed:

Training could be better. Online training is fine, but written, face-to-face, and sit-down training would be better. . . . Trying to do [self-paced online training] between phone calls was difficult. There was no follow-through.

The need for formally structured training may be most acute in the early stages of change implementation when trainees need to be presented with a set of behaviors to be learned and with an opportunity to observe those behaviors (Murthy et al. 2008). We define *formality of the training* as the degree to which the change-related training was organized, planned, and delivered in a systematic manner. Behavior modeling training suggests that information and behaviors should be presented in an organized way to facilitate cognitive organization of acquired knowledge (Taylor, Russ-Eft, and Chan 2005). The transfer of desired skills is more likely to occur when knowledge and behaviors are organized into manageable modules and when the learning experience is appropriately paced (Cron et al. 2005; Tannenbaum and Yukl

1992). Furthermore, information provided through formal channels is used more often (Maltz and Kohli 1996).

Studies conducted in the context of higher education suggest that instruction and instructors who are perceived to be more organized are evaluated more positively (e.g., Paswan and Young 2002). Thus, we expect a positive correlation between formality of the training and the perceived effectiveness of the training. We posit:

Hypothesis 2: Formality of the change-related training will be positively related to the perceived effectiveness of the training.

Previous research suggests that nonmandated workplace technologies (i.e., adoption is voluntary) are perceived more favorably and are more likely to be used (Hartwick and Barki 1994). However, little is known about the effects of mandating *training* in implementing technological change in sales strategy. *Voluntariness* is defined as the degree to which salespeople perceive that participation in change-related training is voluntary rather than mandated. Voluntariness is not a dichotomous (i.e., yes or no) proposition; often salespeople are informed that the training is voluntary but they are “strongly encouraged” to participate. Some of the exploratory interview data suggest that salespeople react negatively to mandated training. One salesperson observed:

We were given an ultimatum—to get on with the online sales [training] program or to get our resumes together. . . . It was meant to convey management's commitment.

Thus, we might expect that mandatory training would be perceived as less effective than voluntary training (e.g., Cron et al. 2005). However, salespeople and sales managers may treat an announced change in sales strategy with skepticism until they are convinced that management is fully committed to the change.

Management decisions about the training, including the decision to make training mandatory or not, may serve as cues about the change and the firm's commitment to the change. In information-asymmetric environments, the *signaling concept* suggests that salespeople (who are often at an information disadvantage under such conditions) will make attributions about managers' intentions based on the tactics that the managers use (Kirmani and Rao 2000). When substantive information about the change is not forthcoming through direct channels, salespeople will make inferences about managerial commitment based on cues evident in management of a change-related training program. Six and Sorge (2008) suggest that individuals are more likely to trust management's intentions when cues are consistent and unambiguous.

Requiring salespeople to participate in a training program would signal a high level of commitment to the change and a

commitment to assisting salespeople through the transition. Moreover, the commitment of resources by a firm to a course of action affects employee perceptions of that course of action (Menon et al. 1999). When salespeople see that significant resources have been allocated to training, they may perceive the training to be higher in quality. Thus, we expect a negative correlation between training voluntariness and the perceived effectiveness of training. We posit:

Hypothesis 3: Voluntariness will be negatively related to the perceived effectiveness of change-related training.

Moderating Effect of the Perceived Impact of Change

Perceived impact of change is the degree to which a salesperson believes that the change will have a favorable effect on his or her well-being on the job. Several studies on SFA note that the perceived usefulness of technology has a significant influence over the acceptance, adoption, and usage of a new SFA technology (Buttle, Ang, and Iriana 2006; Jones, Sundaram, and Chin 2002; Schillewaert et al. 2005). These studies suggest that salespeople who believe that the technological change will have a highly beneficial impact will be more motivated to actively participate in change-related training.

Expectancy theory has been the dominant framework for understanding salesperson motivation (Chonko 1986; Gray and Wert-Gray 1999). The central tenet of expectancy theory is that expected outcomes motivate individual behavior (Feather 1982). This line of thinking suggests that a salesperson who expects the change to have a highly favorable impact on him or her will be motivated to develop the skills needed to manage and implement the technological change.

Motivation driven by the expected benefits of change would likely mitigate some effects of the characteristics of the training program. Salespeople who expect a favorable impact from the change may be more sensitive to the availability of timely training, but they may be less sensitive to other training characteristics such as whether the training is voluntary or whether it is formally structured.

Thus, we expect that perceived impact of the change to moderate the relationships between training characteristics and the perceived effectiveness of change-related training. We posit:

Hypothesis 4: The positive effect of timeliness on training effectiveness will be stronger for salespeople who perceive the change to have a more favorable impact.

Hypothesis 5: The positive effect of formality on training effectiveness will be weaker for salespeople who perceive the change to have a more favorable impact.

Hypothesis 6: The negative effect of voluntariness on training effectiveness will be weaker for salespeople who perceive the change to have a more favorable impact.

Moderating Effect of the Salesperson's Age

As they age, salespeople become more resistant to change (Fu 2009) and to new technology (Morris and Venkatesh 2000). Because of their increased fear of change and of technology, older salespeople may experience greater anxiety or distress in the context of a technological change. For older salespeople, timeliness of change-related training may be more critical than for younger salespeople. Timely training would reduce anxiety among older salespeople and will allow them time to learn about new technologies and to adjust to the change. Thus, we posit:

Hypothesis 7: The positive effect of timeliness on perceived effectiveness of training will be stronger with the salesperson's age.

During training, older salespeople may feel the need to ask more questions and to seek additional feedback as a way of reducing anxiety and ensuring mastery of the needed skills. However, concerns about impression management may cause trainees to fear that feedback-seeking behavior may be interpreted as evidence of incompetence or low ability (Murthy et al. 2008). Older salespeople's fear of change may amplify these concerns. During exploratory interviews, an older salesperson commented:

Individuals at my branch who were more experienced [with online sales] were available to us for help. I felt more comfortable with them because I was familiar with them, and they understood my day-to-day problems.

Experienced salespeople also have more developed cognitive structures and are able to make linkages between these cognitive structures more effectively than less experienced salespeople (Murthy et al. 2008). Thus, compared to younger salespeople, older salespeople may not only derive greater benefit from voluntary training, they may also respond less favorably to formally structured training. Therefore, we posit:

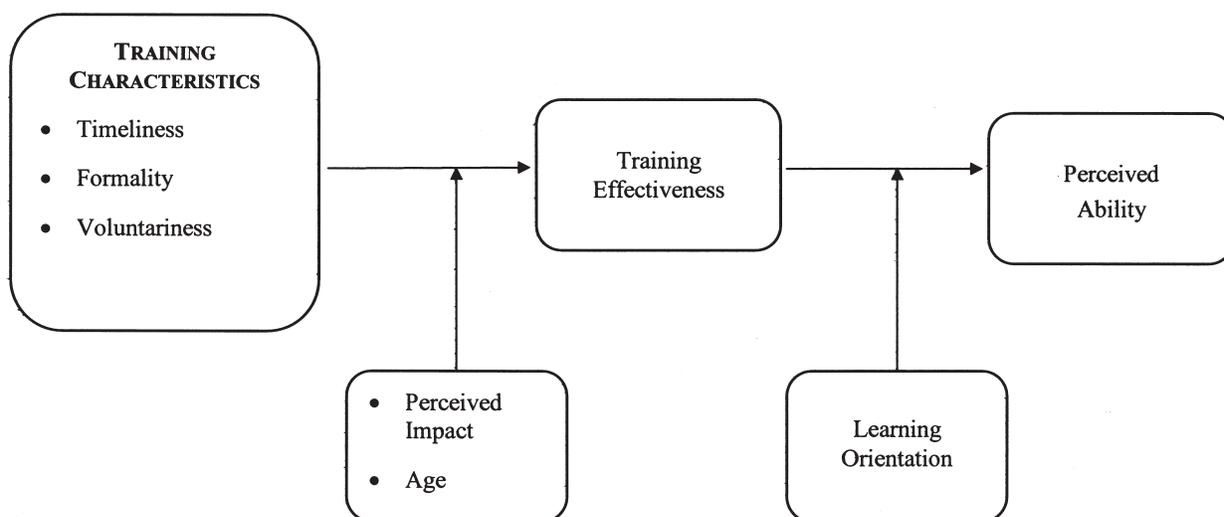
Hypothesis 8: The positive effect of formality on perceived effectiveness of training will be weaker with the salesperson's age.

Hypothesis 9: The negative effect of voluntariness on perceived effectiveness of training will be weaker with the salesperson's age.

Training Effectiveness and the Perceived Ability to Manage the Change

Change-related training programs develop in salespeople the skills or knowledge needed to cope with the change (Cooper, Dewe, and O'Driscoll 2001; Lazarus and Folkman 1984). Effective change-related training leads to better person-job fit, which in turn increases the salesperson's perceived ability to

Figure 1
Model of the Effect of Training Characteristics on Training Effectiveness and Perceived Ability to Manage the Change



manage and implement the change (Hurley 1998). *Perceived ability* is defined as the degree to which the salesperson feels confident in his or her capacity to manage the impact of the change. When training is perceived to be effective, it leaves the salespeople feeling confident in their ability to adapt to the new technology and manage the technological change. Thus, we posit:

Hypothesis 10: Perceived effectiveness of the change-related training will be positively related to perceived ability to manage the change.

Moderating Effect of the Salesperson's Learning Orientation

Learning orientation is defined as the degree to which the goals of the salesperson orient him or her to improve his or her abilities and mastery of task performance. Salespeople with a high learning orientation value new experiences and challenging situations, and are intrinsically motivated about their work (Sujan, Weitz, and Kumar 1994). Those salespeople who have a high learning orientation believe that they can tackle challenges associated with change on their own by experimenting with new approaches. Thus, the relationship between training effectiveness and perceived ability to manage the change may be weaker for salespeople with high learning orientation than for those with low learning orientation. Thus, we hypothesize that:

Hypothesis 11: The positive effect of training effectiveness on the perceived ability to manage the change will be weaker for salespeople with a higher learning orientation.

The conceptual model proposed in this study is outlined in Figure 1. The model controls for the salesperson's education in

order to account for sample heterogeneity, to rule out alternative explanations, and to mitigate problems associated with omitted variables (Ye, Marinova, and Singh 2007). Empirical testing of the proposed model is discussed next.

METHODOLOGY

Sample Selection and Data Collection

This study was conducted as a part of a larger research project on strategic change implementation in marketing. Data were collected at the individual level from salespeople of a *Fortune 500* company, a commercial distributor with annual revenues in excess of several billion dollars. The company sells over 500,000 products to more than a million customers, including both businesses and individual consumers. It has over 600 sales branches worldwide, nearly half of which are in the United States. Salespeople are affiliated with branch offices and are responsible for generating sales, processing orders, and providing customer service. Adoption of the Internet as the primary sales channel constituted a major change in the company's marketing and sales strategy, particularly as it was among the first in its industry to do so.

Three senior vice presidents of the company wrote to nearly 75 percent of branch managers in the United States informing them of the purpose of the study and soliciting their participation. Branch managers were then forwarded a total of 3,059 individualized packets for distribution to salespeople in their branches. Each individualized packet contained a letter explaining the purpose of the study, a questionnaire, and a prepaid business reply envelope to return the completed surveys directly to the researchers. Surveys were coded to identify the respondent and his or her branch, but respondents were ensured confidentiality. Reminders were sent to all salespeople

through the branch managers at two and four weeks after the initial mailing.

Of the surveys distributed, 51 were returned because the respondent had left the organization or changed jobs within the organization. Usable responses were obtained from 828 salespeople for a final response rate of 27.5 percent. Salespeople responding to the survey represented 204 different branches. Reflective of the overall composition of the company's sales force, 72 percent of respondents are male and 88 percent are between the ages of 21 and 50. On average, the respondents have 15 years of education and 9.7 years of experience at the company out of which 6.1 years were in sales.

Measures

Wherever possible, existing scales were used. However, for some constructs, scales were either unavailable or had limited applicability to the study's context. In such cases, it was necessary to adapt existing scales or to develop new ones. Kohli, Jaworski, and Kumar (1993) suggest that when literature-based perspectives on a construct are limited, a field-based perspective can be employed to develop construct measures. As previously mentioned, three major themes regarding characteristics of change-related training emerged from the field interviews—timeliness, formal structure, and voluntariness of the training. Consistent with the approach adopted by Kohli, Jaworski, and Kumar (1993), the field interview data were used to generate a list of items to measure the characteristics of training that emerged from the field interviews. These items (along with others) were then subjected to standard scale refinement and validation procedures outlined by Churchill (1979).

Measure Validation

Pretesting

Drawing upon insights from the field interviews and a review of the relevant literature, a study instrument was developed. This study instrument was subsequently pretested at two branches of the company in two stages prior to final administration to the larger sample. First, a draft of the questionnaire was administered to seven salespeople at one branch. Each salesperson was asked to fill out the questionnaire individually in the presence of one of the researchers and to identify ambiguous or otherwise problematic scale items. Particular attention was directed to new scale items to ensure they were clear and that they captured the essence of the constructs. Scale items were added, modified, or eliminated based on inputs received.

A revised questionnaire was then tested with 19 salespeople at another branch office. A process identical to the one described above was followed. Following these two pretests, two senior sales and marketing executives from the participating organization were asked to review the survey and to identify

any problems related to face validity, phrasing, or comprehension. Few difficulties surfaced during the final rounds of pretesting, suggesting the instruments were ready for deployment in the main study. Individual scale items are presented in the Appendix.

Measurement Model

Anderson and Gerbing's (1988) two-step approach was used to examine the psychometric properties of the measures. First, an exploratory factor analysis was performed on groups of related constructs to investigate their factor structure (Singh and Rhoads 1991). Items with significant cross loadings (i.e., loadings > 0.30) were discarded. Table 1 presents the exploratory factor analysis of items measuring the characteristics of change-related training. A stable three-factor solution was obtained where the first factor corresponds to formality of the training, the second corresponds to timeliness, and the third corresponds to voluntariness. The exploratory analysis lends support to the findings from our qualitative data.

Next, per Anderson and Gerbing (1988), confirmatory factor analysis was used to simultaneously estimate the measurement model using AMOS 16. The final fit statistics of the measurement model were satisfactory: normed fit index (NFI; 0.92), comparative fit index (CFI; 0.94), goodness-of-fit index (GFI; 0.93), adjusted goodness-of-fit index (AGFI; 0.91), and root mean square error of approximation (RMSEA; 0.06) although the chi-square was significant ($\chi^2_{(109)} = 527$). Standardized loadings for each item from the measurement analysis and the composite reliability and average variance extracted for each construct are reported in the Appendix. Correlations between constructs are presented in Table 2.

With the exception of training timeliness, all the construct scales had reliability coefficients exceeding 0.70. At 0.68, the reliability coefficient for timeliness was close to the critical threshold and therefore deemed acceptable for inclusion in further analysis. Standardized loadings from latent constructs to their corresponding manifest indicators were statistically significant at $p < 0.05$, providing evidence of convergent validity (Anderson and Gerbing 1988). For each pair of measures, the average variance extracted for each measure was greater than the squared structural link (i.e., ϕ^2) between the two measures, providing evidence of discriminant validity (Fornell and Larcker 1981). Overall, these results suggest that the measures have good psychometric properties.

DATA ANALYSIS AND RESULTS

Data Analysis

The data were analyzed and the hypotheses tested using hierarchical linear models (HLM). HLM is particularly well suited for analyzing hierarchically nested data structures

Table 1
Exploratory Factor Analysis of Items Measuring Characteristics of Change-Related Training (Oblique Rotation)

| Items | Factor 1 | Factor 2 | Factor 3 |
|--|----------|----------|----------|
| I was trained in a systematic manner to prepare for this change. | 0.81 | | |
| Change-related training sessions were delivered in a structured format. | 0.89 | | |
| Change-related training programs were rolled out in an organized manner. | 0.88 | | |
| The change-related training provided to me was preplanned. | 0.83 | | |
| Training sessions for this change were delivered in a classroom-like environment. | 0.63 | | |
| I wish the change-related training programs were offered earlier than they were. (R) | | 0.86 | |
| Training for the change was overdue by the time I received it. (R) | | 0.82 | |
| I was required to participate in the change-related training programs. (R) | | | 0.88 |
| The decision to participate in the training sessions was left up to me. | | | 0.69 |

Notes: Factor 1 = formality; factor 2 = timeliness; factor 3 = voluntariness; R = reverse scored.

where micro-level observations (i.e., individuals) are nested within macro-level observations (i.e., groups or, in our case, branch offices) (Bryk and Raudenbush 1992; Kreft and Leeuw 1998).

Level of Aggregation

In nested data, the total variance in any construct can be decomposed into its within- and between-group components (Bryk and Raudenbush 1992; Hoffman, Griffin, and Gavin 2000). The appropriate level of aggregation for each independent variable is determined based on the level at which the data are collected, and the proportion of variance that resides within-group as opposed to between-groups for each construct (Bliese 2000; Bryk and Raudenbush 1992; Hoffman, Griffin, and Gavin 2000). Intraclass correlation coefficients (ICC) are used for providing a decomposition of the total variance. Using the approach outlined by Bryk and Raudenbush (1992) and Kreft and Leeuw (1998), the ICC for each construct was calculated by running intercept-only (no predictors) HLM models with the construct as the dependent variable. Results show that over 85 percent of the variance in every construct resides within group. Given that our data were collected at the individual level and an overwhelming majority of the variance in the constructs resided within groups, we analyzed the data at the individual level consistent with recent practice (e.g., Sarin and O'Connor 2009).

Model Estimation

The proposed main and moderated effect hypotheses were tested using two-level HLM models (HLM2), where Level 1 units correspond to individual salespeople and Level 2 units correspond to branches. HLM2 is a two-stage process, where first the relationships among Level 1 (individual-level) variables are estimated for each higher-level unit (i.e., branch) separately (Hoffman, Griffin, and Gavin 2000). In the second stage of

the analysis, the Level 1 slope and intercept estimates are used as outcome variables in the Level 2 analysis. For example, the two-level HLM model used to test Hypotheses 1 through 9 is specified below; in this model, training effectiveness is the dependent variable, denoted by Y :

Level 1

$$\begin{aligned}
 Y_{ij} = & \beta_{0j} + \beta_{1j} (\text{Timeliness}) + \beta_{2j} (\text{Formality}) \\
 & + \beta_{3j} (\text{Voluntariness}) + \beta_{4j} (\text{Impact}) + \beta_{5j} (\text{Age}) \\
 & + \beta_{6j} (\text{Timeliness} \times \text{Impact}) + \beta_{7j} (\text{Timeliness} \times \text{Age}) \\
 & + \beta_{8j} (\text{Formality} \times \text{Impact}) + \beta_{9j} (\text{Formality} \times \text{Age}) \\
 & + \beta_{10j} (\text{Voluntariness} \times \text{Impact}) + \beta_{11j} (\text{Voluntariness} \times \text{Age}) \\
 & + \beta_{12j} (\text{Education}) + \beta_{13j} (\text{Learning Orientation}) + r_{ij}.
 \end{aligned}$$

Level 2

$$\begin{aligned}
 \beta_{0j} &= \gamma_{00} + U_{0j} \\
 \beta_{1j} &= \gamma_{10} + U_{1j} \\
 &\vdots \\
 \beta_{6j} &= \gamma_{60} + U_{6j} \\
 &\vdots \\
 \beta_{13j} &= \gamma_{140} + U_{13j}.
 \end{aligned}$$

where β_{0j} is the mean for Y for branch j , r_{ij} is the within branch variance in Y , U_{0j} is the residual intercept variance, and U_{ij} is the variance in slopes.

Common Method Variance

Two steps were taken to guard against the threat of common method variance (CMV) accounting for the study's findings. First, the Harman's one-factor test was performed using confirmatory factor analysis. No single dominant factor was found to load significantly on to all the observables, suggesting that CMV is unlikely to be an issue. Second, we tested moderated relationships between training characteristics and training effectiveness, and between training effectiveness and

Table 2
Individual Level (i.e., Level 1) Correlation Coefficients and Reliabilities

| | Mean | Standard Deviation | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 |
|-----------------------------|--------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Timeliness (X1) | 2.66 | 0.96 | 0.68 | | | | | | | | |
| Formality (X2) | 2.57 | 0.88 | 0.38 | 0.77 | | | | | | | |
| Voluntariness (X3) | 2.48 | 0.91 | -0.05 | -0.28 | 0.70 | | | | | | |
| Training Effectiveness (X4) | 2.62 | 0.80 | 0.58 | 0.64 | -0.10 | 0.90 | | | | | |
| Perceived Ability (X5) | 3.61 | 0.80 | 0.11 | 0.25 | -0.10 | 0.25 | n.a. | | | | |
| Perceived Impact (X6) | -0.018 | 0.83 | 0.22 | 0.31 | -0.04 | 0.32 | 0.51 | n.a. | | | |
| Age (X7) | 31-40 | 0.95 | 0.02 | -0.02 | -0.05 | -0.06 | -0.07 | -0.01 | n.a. | | |
| Education (X8) | 14.7 | 1.9 | -0.03 | 0.03 | -0.02 | -0.04 | 0.03 | -0.02 | -0.09 | n.a. | |
| Learning Orientation (X9) | 4.17 | 0.64 | -0.07 | 0.12 | -0.23 | 0.03 | 0.26 | 0.17 | 0.06 | 0.002 | 0.73 |

Notes: Construct reliabilities are presented along the diagonal. n.a. = not applicable.

perceived ability. Podsakoff et al. (2003) suggest that the use of moderated paths reduces susceptibility to CMV.

Results

Main Effects of Training Characteristics on Training Effectiveness

Table 3 presents the effects of training characteristics on training effectiveness. The HLM2 model explains 57 percent of the Level 1 variance in perceived training effectiveness. Timeliness does not have a significant main effect on the perceived effectiveness of training. However, as hypothesized, formal structure has a significant positive effect ($\gamma = 0.883, p \leq 0.01$), and voluntariness has a marginally significant negative effect ($\gamma = -0.124, p \leq 0.10$) on the perceived effectiveness of training. Thus, Hypothesis 1 is not supported, Hypothesis 2 finds strong support, and Hypothesis 3 is weakly supported.

Moderating Effects of Perceived Impact

Table 3 also presents the results of the moderating analysis. Perceived impact of the change has a significant positive interaction with timeliness ($\gamma = 0.115, p \leq 0.01$). To interpret this interaction effect in the absence of a significant main effect, we separately regressed training effectiveness on timeliness (while controlling for age, education, perceived impact, and the learning orientation of the salesperson). Results indicate that timeliness alone has a significant positive influence on training effectiveness ($\gamma = 0.484, p \leq 0.01$). Hence, the significant interaction effect suggests that the more favorable the perceived impact of change, the stronger is the positive relationship between timeliness and training effectiveness. Therefore, Hypothesis 4 is supported.

As expected, perceived impact weakens the positive relationship between formal structure of the training and training effectiveness ($\gamma = -0.092, p \leq 0.05$). Thus, Hypothesis 5 is supported. Perceived impact has no significant effect on the relationship between voluntariness and training effectiveness. Therefore, Hypothesis 6 is not supported.

Moderating Effect of Salesperson's Age

Table 3 also shows that age has a significant interaction with training timeliness in the hypothesized direction ($\gamma = 0.073, p \leq 0.05$). Like the results regarding perceived impact, this result suggests that the older the salesperson, the stronger is the positive relationship between timeliness and training effectiveness. Therefore, Hypothesis 7 is supported.

Salesperson's age has a significant negative interaction with formal structure of the training ($\gamma = -0.126, p \leq 0.01$) suggesting that the older the salesperson, the weaker is the

positive relationship between formality and training effectiveness. Thus, Hypothesis 8 is supported. Age also has a marginally significant interaction with training voluntariness ($\gamma = 0.036, p \leq 0.10$) suggesting that the older the salesperson, the weaker is the negative relationship between voluntariness and training effectiveness; the results offer only weak support for Hypothesis 9.

Effect of Training Effectiveness on Perceived Ability

Results of the effect of training effectiveness on perceived ability to manage the change are presented in Table 3. The HLM2 model explains 32 percent of the variance in perceived ability. Training effectiveness has a significant positive relationship with salespersons' perceived ability ($\gamma = 0.345, p \leq 0.01$), providing support for Hypothesis 10. Moreover, the learning orientation of the salesperson has a significant negative interaction with training effectiveness ($\gamma = -0.053, p \leq 0.01$), suggesting that the greater the salesperson's learning orientation, the weaker is the positive relationship between training effectiveness and the perceived ability to manage the change. Therefore, Hypothesis 11 is supported.

Test of Mediation for Training Effectiveness

The procedure outlined by Baron and Kenny (1986) was followed to test whether training effectiveness mediates the effects of training characteristics on perceived ability. First, perceived ability was regressed on training characteristics and the relevant interaction terms. Next, the mediating variable, training effectiveness, was added as a predictor to the above model. Results of the test of mediation suggest that training effectiveness partially mediates all of the main and interaction effects examined in this study, with the exception of the main effect of training timeliness and the interaction between timeliness and age (see Table 3). Overall, the results suggest support for the model proposed in Figure 1. Seven of the 11 hypotheses proposed in this study are supported, and another two are supported at the 0.10 level. Table 4 presents a summary of the results.

DISCUSSION

Traditional organizations are increasingly promoting online (i.e., Internet) sales channels over the more conventional offline sales channels (i.e., salespeople). Such initiatives represent a fundamental change in sales strategy of the organization, with the primary responsibility for implementing the change falling on the salespeople. Despite significant financial investment by the organizations, the failure rate for technological change initiatives is high. Studies show that salespeople often reject such technological change due to inability or unwillingness to

Table 3
Effect of Training Characteristics on Perceived Effectiveness and Perceived Ability: HLM Results

| Independent Variables | Dependent Variables | | |
|---|------------------------|---|-------------------|
| | Training Effectiveness | Perceived Ability (Test of Mediation for Training Effectiveness) ^a | Perceived Ability |
| Intercept | 0.981*** | 2.33*** | 2.09*** |
| Training Variables | | | |
| Timeliness | 0.098 | 2.62* | |
| Formality | 0.883*** | 0.290** | |
| Voluntariness | -0.124* | 0.062 | |
| Mediators and Moderators | | | |
| Age ^b | -0.040** | -0.025 | -0.045** |
| Perceived Impact ^b | 0.106*** | 0.425*** | 0.417*** |
| Learning Orientation ^c | -0.024 | 0.226*** | 0.266*** |
| Training Effectiveness | | 0.156*** | 0.345*** |
| Interaction Effects | | | |
| Timeliness × Age | 0.073** | -0.100** | |
| Timeliness × Perceived Impact | 0.115*** | -0.064 | |
| Formality × Age | -0.126*** | 0.092** | |
| Formality × Perceived Impact | 0.092** | 0.065 | |
| Voluntariness × Age | 0.036* | -0.023 | |
| Voluntariness × Perceived Impact | -0.028 | -0.009 | |
| Training Effectiveness × Learning Orientation | | | -0.053*** |
| Control Variable | | | |
| Education | -0.012 | 0.012 | 0.016* |
| Level I Variance Explained | 0.571 | 0.332 | 0.323 |

Notes: ^a Mediated coefficients are noted in italics. ^b Represents a control variable in the model with Perceived Ability as the dependent variable. ^c Represents a control variable in the model with Training Effectiveness as the dependent variable. * $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$.

adopt the new technology (e.g., Speier and Venkatesh 2002). SFA and change management literature suggest that training can play a critical role in helping salespeople cope with change and stress resulting from the introduction of new technology. The purpose of this study was to examine how characteristics of change-related training influence perceptions of training effectiveness; and how training effectiveness in turn affects the perceived ability of salespeople to manage a technological change in sales strategy. Prior research suggests that salespeople who perceive themselves to be able to manage a change are more likely to implement the change.

Drawing upon existing research and exploratory data from 37 field interviews, we identify three previously unexplored dimensions of training that influence a salesperson's perceptions of training effectiveness in a change implementation context—timeliness, formal structure, and voluntariness. We argue that perceptions of training effectiveness in turn influence salespeople's perceived ability to manage the change. We examine how perceived impact of the change and the salesperson's age moderate the relationships between the training characteristics and perceived training effectiveness. Finally, we look at how the salesperson's learning orientation moderates

the relationship between training effectiveness and perceived ability to manage the change.

Analysis of survey data collected from 828 salespeople suggests that formality has a positive effect and voluntariness has a weak negative effect on perceived training effectiveness in a change implementation context. These findings challenge conventional wisdom in the sales force literature which suggests that training programs should be voluntary and informal, with multimodal delivery formats (e.g., Cron et al. 2005). Our results suggest that the context of the training may play a key role in what kind of training is more effective. In the change implementation context studied here, knowledge dissemination in a formal and structured format shows itself to be effective. Under such circumstances, mandating training may do more than simply ensure participation; it may signal an organization's commitment to the change and enhance perceptions of training effectiveness.

Although timeliness of the training had no effect on perceptions of training effectiveness in the presence of other training characteristics, it did have a significant positive effect when considered alone. We find that as the perceived favorability of the impact of the change increased, the positive relation-

Table 4
Summary of Results

| Hypothesis | Relationship | Result |
|------------|--|-------------------------|
| H1 | Timeliness of change-related training will be positively related to the perceived effectiveness of the training. | Not Supported |
| H2 | Formality of the change-related training will be positively related to the perceived effectiveness of the training | Supported |
| H3 | Voluntariness will be negatively related to the perceived effectiveness of change-related training. | Supported at 0.10 level |
| H4 | The positive effect of timeliness on training effectiveness will be stronger for salespeople who perceive the change to have a more favorable impact. | Supported |
| H5 | The positive effect of formality on training effectiveness will be weaker for salespeople who perceive the change to have a more favorable impact. | Supported |
| H6 | The negative effect of voluntariness on training effectiveness will be weaker for salespeople who perceive the change to have a more favorable impact. | Not Supported |
| H7 | The positive effect of timeliness on perceived effectiveness of training will be stronger with the salesperson's age. | Supported |
| H8 | The positive effect of formality on perceived effectiveness of training will be weaker with salesperson's age. | Supported |
| H9 | The negative effect of voluntariness on perceived effectiveness of training will be weaker with salesperson's age. | Supported at 0.10 level |
| H10 | Perceived effectiveness of the change-related training will be positively related to perceived ability to manage the change. | Supported |
| H11 | The positive effect of training effectiveness on the perceived ability to manage the change will be weaker for salespeople with a higher learning orientation. | Supported |

ship between timeliness and training effectiveness grows stronger, but the positive relationship between formality and training effectiveness grows weaker. Thus, salespeople who think they are likely to be favorably affected by the change show a stronger preference for timely training but a weaker preference for highly structured training. Future studies on sales force training should continue to examine the role of trainee motivations.

Salesperson's age moderated the relationships between training characteristics and perceived training effectiveness. We find that for older salespeople, the positive relationship between timeliness and training effectiveness is stronger, but the positive relationship between formality and training effectiveness is weaker. Thus, like highly motivated salespeople, older salespeople respond more positively to timely training but less positively to formally structured training. Older salespeople may prefer a less intimidating training format, one where they are comfortable asking questions and voicing concerns. They also respond more favorably when given greater flexibility in the decision to participate in the change-related training.

We find that perceived effectiveness of the training is positively related to the salesperson's perceived ability to manage the change. Learning orientation weakens this relationship. A salesperson with high learning orientation is knowledge driven and intrinsically motivated. Therefore, the evaluation of a training program from such a salesperson may be inde-

pendent from the training's effect on his or her performance or ability to manage the change.

Our findings suggest that perceived impact, age, and learning orientation of the salesperson exert significant moderating effects on the antecedents and consequences of training effectiveness. Sales managers and trainers would be well advised to take such individual differences into account when designing sales force training programs, especially in the context of implementing technological change. Our findings lend empirical support to the call by Cron et al. (2005) for more customized and individualized sales force training programs. Examination of the moderating effects of other demographic and personality variables may offer a fruitful area for future exploration.

Like most studies, this study suffers from limitations. Only a subset of the dimensions of training alluded to by Cron et al. (2005) and Tharenou, Saks, and Moore (2007) was examined. We chose to focus on these dimensions because our field interviews suggested that they are most relevant in the context. Future research is needed to examine the effect of other dimensions of training. Ours is a cross-sectional study. In a longitudinal study, Speier and Venkatesh (2002) find that evaluation of new SFA technology deteriorated over time following training. Future studies might attempt to examine the relationships identified here as they change over time. Finally, future research might improve upon our measures of training timeliness and training voluntariness. Meanwhile,

this study can inform training programs in SFA and those for implementing technological change in sales strategy.

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APPENDIX MEASURES

| Construct Items, ^a Composite Reliability (CR), and Variance Extracted (VE) | Loading ^b |
|--|----------------------|
| In the following items, the word "change" refers to the push for online sales at the salesperson's branch. | |
| Timeliness (CR = 0.68; VE = 0.51) | |
| 1. I wish the change-related training programs were offered earlier than they were. (R) | 0.73 |
| 2. Training for the change was overdue by the time I received it. (R) | 0.69 |
| 3. The change-related training sessions were offered at the right time to me. ^c | |
| 4. I received the training in time to prepare for this change. ^c | |
| Formality (CR = 0.77; VE = 0.63) | |
| 1. I was trained in a systematic manner to prepare for this change. | 0.75 |
| 2. Change-related training sessions were delivered in a structured format. | 0.86 |
| 3. Change-related training programs were rolled out in an organized manner. | 0.89 |
| 4. The change-related training provided to me was preplanned. | 0.78 |
| 5. Training sessions for this change were delivered in a classroom-like environment. | 0.54 |
| 6. How we trained for this change was left to the individual. ^c (R) | |
| Voluntariness (CR = 0.70; VE = 0.54) (based on Speier and Venkatesh 2002) | |
| 1. I was required to participate in the change-related training programs. (R) | 0.85 |
| 2. The decision to participate in the training sessions was left up to me. | 0.67 |
| Training Effectiveness (CR = 0.90; VE = 0.81) | |
| 1. The change-related training I received was adequate. | 0.92 |
| 2. The training I received provided me with all the skills/knowledge necessary to deal with this change. | 0.90 |
| 3. I could have used more training in preparation for the change. (R) | 0.53 |
| 4. Some of the issues were dealt with superficially in the change-related training programs. (R) | 0.40 |
| 5. The training I received was quickly outdated. ^c (R) | |
| Learning Orientation (CR = 0.73; VE = 0.59) (Sujan, Weitz, and Kumar 1994) | |
| 1. In my line of work, it is worth spending a great deal of time learning new approaches for dealing with the customers. | 0.59 |
| 2. It is important for me to learn from each selling experience I have. | 0.80 |
| 3. An important part of being a good salesperson is continuously improving your selling skills. | 0.84 |
| 4. Learning how to be a better salesperson is of fundamental importance to me. | 0.78 |
| 5. There really are not a whole lot of new things to learn about selling at my company. ^c (R) | |
| Age (CR = n.a.; VE = n.a.) | |
| 1. Your age (circle one): Under 21, 21–30, 31–40, 41–50, 51–60, Over 60 | |
| Education (CR = n.a.; VE = n.a.) | |
| 1. Please indicate the number of years of formal education you have had (school and college): ____ | |
| Perceived Ability ^{d,e} (CR = n.a.; VE = n.a.) (based on Teas 1981) | |
| How confident are you about your ability to deal with any impact this change is likely to have on ... | |
| 1. ...your workload. | |
| 2. ...your opportunities to learn new things. | |
| 3. ...your relationships with your customers. | |
| 4. ...the amount of flexibility you have in your job. | |
| 5. ...your relationship with your supervisor. | |
| 6. ...the nature of the work you do. | |
| 7. ...your total dollar compensation (i.e., salary, commission, bonus, etc.). | |
| 8. ...your status/position in the organization. | |
| 9. ...your chances of advancement in this organization. | |
| 10. ...your job security. | |
| Perceived Impact ^{e,f} (CR = n.a.; VE = n.a.) (based on Teas 1981) | |
| The impact this change is likely to have on ... | |
| 1. ...your workload. | |
| 2. ...your opportunities to learn new things. | |
| 3. ...your relationships with your customers. | |
| 4. ...the amount of flexibility you have in your job. | |
| 5. ...your relationship with your supervisor. | |
| 6. ...the nature of the work you do. | |
| 7. ...your total dollar compensation (i.e., salary, commission, bonus, etc.). | |
| 8. ...your status/position in the organization. | |
| 9. ...your chances of advancement in this organization. | |
| 10. ...your job security. | |

Notes: R = reverse scored; n.a. = not applicable. ^a Unless noted, all scales are measured using a five-point scale ranging from "strongly disagree" to "strongly agree."

^b Completely standardized loadings. ^c These items were dropped during the scale refinement process. ^d These items are measured using a five-point scale ranging from "not at all confident" to "very confident." ^e Formative scale-item loadings, CR and VE not applicable. ^f These items are measured using a five-point scale ranging from "very unfavorable" to "very favorable."

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