Journal of Marketing Education
32(2) 214–223

DOI: 10.1177/0273475309360163
http://jmd.sagepub.com
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The Impact of Learning Context on Intent to Use Marketing and Sales Technology: A Comparison of Scenario-Based and Task-Based Approaches

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Abstract

With firms focused on increasing efficiency and effectiveness in today's marketing and sales environment, it is crucial that salesforce training methods facilitate greater adoption of salesforce automation technology. Given the growth in sales education at colleges and universities, firms are looking to recruit their frontline marketing and sales personnel direct from college. Thus, there is an opportunity for marketing educators to influence these future marketing and sales professionals' attitudes toward technology via course instruction. This study combines technology-mediated learning and technology acceptance theories in the marketing sales education domain to show how two different contextual learning modes affected marketing and sales students' perceptions of technology. A total of 252 marketing/sales students from an Account and Territory Management class were taught to use a salesforce automation tool using two different contextual learning approaches. Findings showed that when students were taught using an approach involving a realistic sales scenario, their perceptions of technology usefulness were greater than if the course instruction was delivered using a systematic task-based learning approach. This supports the view that the learning context of technology training matters. For students of marketing and sales, the implication is the development of perceptions that make them more willing to use technology in the workplace.

Keywords

sales education, sales training, salesforce automation, technology acceptance, technology-mediated learning

A quintessential issue for firms in today's competitive environment is how to maximize the return on investment of salesforce training (Cron & Marshall, 2005; Erffmeyer & Peterson, 2008). In fact, because training is such a large portion of the salesforce development budget (estimated at $57.9 billion), larger firms view it as an investment (Hahne, 1977), and some firms even look for a 20-year return on their training dollar (Powell, 2001). This is justified because studies reveal that effective training leads to lower turnover, longer lasting customer relationships, organizational commitment, motivation, role clarity, and job satisfaction (Ingram & Schwepker, 1992; Leach & Liu, 2003; Longfellow, 1995; Powell, 2001). Given the importance of effective sales training programs, it is incumbent on college and university educators to find innovative ways to equip aspiring marketing and sales professionals to compete for jobs (Barr & McNeilly, 2002; Chapman & Avila, 1991; Goldgehn, 1989; Kelley & Bridges, 2005; Taylor, 2003; Turley, Shannon, & Miller, 1993). One way to do this is to incorporate the use of customer relationship management technology tools as part of their marketing and sales curriculum.

Several of the top colleges and universities incorporate salesforce technology instruction as part of their sales program curriculum (Pullins & Buehrer, 2008; Pullins & Mallin, 2008). This helps train the next generation of marketing and sales professionals by providing opportunities for students to combine modern classroom teaching with "real-world" experience. However, to be effective, students must be taught to use the technology. Therefore, it becomes vitally important to analyze the various learning methods used and the subsequent outcomes of each.

Research suggests that the learning context will have an impact on learner outcome and is the environment that immerses individuals in authentic learning experiences (Hsiao, Kuo, & Chu, 2006). For example, based on the training context, professional salespeople will develop perceptions of how

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well a technology will serve their selling needs as well as their attitude toward the ease and utility of using the technology (Mallin & DelVecchio, 2008). One such important outcome is the learner's "intent to use" the technology. Therefore, depending on the mode or context of training used, outcomes (e.g., adoption) can be expected to vary. This notion can be applied in marketing and sales education in that the mode of delivering a technology course can have an impact on the student's willingness to actually use it after graduation.

Our study addresses this issue. Specifically, we study technology-mediated learning and technology acceptance in a sales student training environment using two different learning contexts. The first is one where learners are provided systematic step-by-step instructions on how to use a salesforce technology. The second reflects a context where students are provided a realistic sales scenario and are asked to apply the technology to address a business need. We show that by altering the learning context, the degree to which a technology acceptance model will explain usage intent of a salesforce automation (SFA) tool will vary. Our findings are relevant to professional marketing and sales training because we show that by developing and delivering technology training in a context representative to an actual sales scenario, students stand to find meaning, relevance, and increased likelihood of using an SFA tool on entering the workforce.

Background: The Use of Technology in Sales Training

Salesforce training is the systematic attempt to describe, understand, and transfer "good selling practices" to sales personnel. This definition, provided by Leigh (1987) suggests that sales training programs are designed to augment or supplement learning-by-doing experiences and to provide a common platform for enhancing salespersons' performance (Wilson & Strutton, 2002). To provide training that is effective and efficient to all members of the salesforce, El-Ansary (1993) recommends that managers diversify training sources and methods. This may also involve varying the context to which the learners are exposed to training content. The literature on technology-mediated learning provides some useful insight as to how various learning contexts can affect instructional effectiveness and learner outcomes.

Task-Based and Scenario-Based Technology-Mediated Learning

The use of technology in training and learning has become a topic of wide discussion and debate. In fact, the *Journal of Research on Technology in Education* recently devoted a special edition to the topic (Bonk, 2003). The consensus among researchers is that there seems to be growing support for integrating technology into traditional classroom settings—both within the educational and professional-training domains (Comeaux & McKenna-Byington, 2003; Connor, 2003). From the information systems literature, Alavi and Leidner (2001) define technology-mediated learning as an environment in which the learner's interactions with educational materials, peers, and/or instructors are facilitated through advanced information technologies. Here, information technology broadly refers to the convergence of computing, communication, and data management technologies.

One viewpoint in particular, the constructivist learning model (Hsiao et al., 2006, Oliver & Herrington, 2003), suggests that instructors act as a guide while learners pose questions, investigate problems, and research answers. From this perspective, technology is used to provide the context to facilitate higher-level understanding, thinking routines, and insights. Alavi and Leidner (2001) further stress that such learning contexts reflect the underlying belief that people "learn by doing." Recognizing the importance of learning context, Oliver and Herrington (2003) operationalized this view by suggesting that effective technology-mediated instruction should not only focus on teaching individual concepts, procedures, and tasks but also provide support and guidance on how the material can be applied (to real-world scenarios). A rudimentary example of this is training someone to use presentation making software (e.g., PowerPoint). Rather than just teaching users how to create circles, boxes, and lines, learners gain more important and relevant knowledge when they understand and practice combining elements into a flowchart, drawing, or model to illustrate or explain a concept.

This view of effective technology-mediated learning can be applied to marketing and sales instruction/training of SFA tools. Traditionally, instruction/training of SFA tools has centered on a system's features and technical aspects (Bonk, 2003). For example, the focus of typical SFA instruction/training may be to teach users how to create customer contact records, edit customer activity records, update customer sales funnel records, and so on. We refer to such a step-by-step contextual approach as a *task-based* approach because the focus is on the mechanical steps required to operate the SFA tool. Indeed, developing an understanding of these important tasks is necessary to operate the SFA tool, but a focus on tool functionality falls short of clearly illustrating its purpose, benefits, and applications. Per Oliver and Herrington (2003), a more effective contextual approach would be to first explain to the learner what business function and work scenario is being addressed (e.g., a synopsis of the business problem) and then proceed to detail the specific tasks required to complete the activity. We will refer to this contextual mode as a *scenario-based* approach. Using this approach, the learner gains a better understanding of which stakeholders are involved, what the appropriate actions are, and why they are important. Here, a diagram or illustration is often a helpful example to enable the learner to visualize the application and required actions. To illustrate, Figure 1 provides an example from an SFA student instruction manual of both task-based and scenario-based learning contexts.

Sample excerpts from training manual using a task-based contextual approach.

Task: Inserting a New Contact Record
Procedure: To add a contact to a database

1. Choose Contacts, New Contact or press the Insert key on your keyboard. — A blank contact record appears.
2. Enter the information for the new contact. — Press [Tab] to move from field to field. [Shift+Tab] takes you back to the previous field

The information entered into ACT! is saved as you go.
You can also right-click anywhere on the background of the Contact layout screen and choose **N**ew Contact from the shortcut menu.

Sample excerpts from training manual using a scenario-based contextual approach.

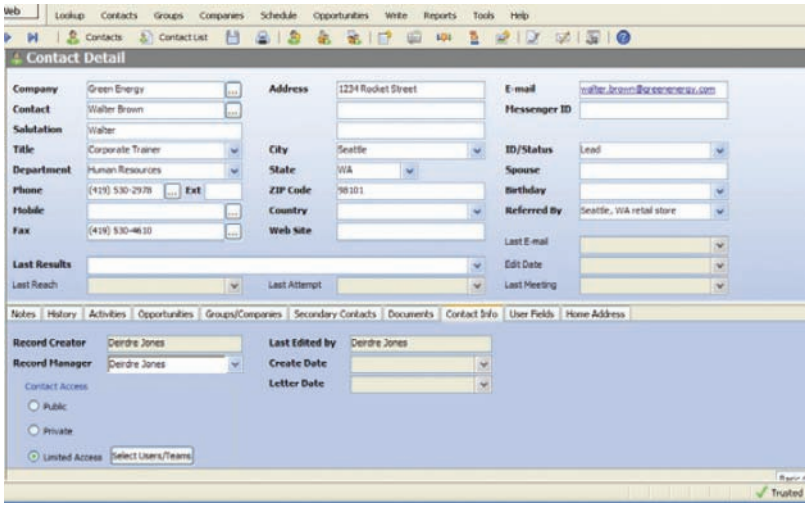
Scenario: Getting Information from Your Virtual Account Team (Internal Coordination)
Caroline Snyder, the store manager at the Seattle, WA retail store, has contacted you about a prospect for the business division. Walter Brown has purchased audio visual components for his home for the past 5 years. He was recently promoted to Corporate Trainer at Green Energy, a manufacturing firm that specializes in alternative energy and has locations across the US and Europe. He is interested in learning more about the business division at CH TechONE because he is looking for ideas to conserve resources on training. He asked Caroline to have someone in the business division give him a call.

ACT! Checklist Summary

1. Create the contact record for Walter Brown
2. Add the contact to the West Coast Accounts YOUR NAME group
3. Record history on your conversation with Caroline Snyder
4. Create an opportunity called Training Resource Conservation
5. Schedule a follow-up activity (call) to get an exploratory appointment

Steps to Complete the ACT! Checklist Summary

1. Create the contact record for Walter Brown
   a. Click on the Contacts button
   b. Click on the New Contact button
   c. Enter the contact information as shown (wait for the screen to refresh and all the text boxes to be blank/white BEFORE entering any data):



   d.
   e. Click the Contact Info tab
   f. Select the Limited Access option in the Contact Access area
   g. Click the Select Users/Teams button in the Contact Access area to select the user(s) who will have access to Walter Brown's data
   h. Select your instructor from the Users list and click the add arrow > to add him/her to the Selected users list
   i. Click the OK button in the Select Users and Teams window to save your list of limited user(s)

Figure 1. Sample excerpts from a training manual using *task-based* and *scenario-based* contextual approaches

Technology-mediated learning theory provides us with a background to help establish the delineation between a task-based approach and a scenario-based contextual learning approach. However, of utmost importance to sales practitioners are outcomes associated with effective SFA learning and training programs (Erffmeyer & Peterson, 2008). From the literature, one such important outcome is "intent to use" a technology. A seminal model used to predict a user's intent to use a technology is the technology acceptance model. In the section to follow, we describe this model and use it to compare a scenario-based learning approach with one that is task based in the instruction/training of an SFA tool.

Intent to Use the Technology: The Technology Acceptance Model

Davis (1989) combined the theoretical underpinnings of attitude theory, behavioral decisions, and adoption of innovation to find that an individual considers certain relevant factors when deciding to use a particular technology. This technology acceptance model has gained wide acceptance among researchers as two variables, *perceived usefulness* and *attitude toward the technology*, have been shown to account for most of the variance when explaining a user's *intent to use* a particular technology (Avlonitis & Panagopoulos, 2005; Celuch, Taylor, & Goodwin, 2004; E. Jones, Sundaram, & Chin, 2002; Morgan & Inks, 2001; Rangarajan, Jones, & Chin, 2005; Schillewaert, Ahearne, Frambach & Moenaert, 2005; Speier & Venkatesh 2002). Perceived usefulness is the potential user's belief that using an information technology will benefit him/her by enhancing his/her job performance (Davis, 1989), whereas attitude toward technology usage is indicative of the perceived benefits that the user will reap from tool usage and its relative ease of use (Mathieson, 1991; Venkatesh, 2000; Venkatesh & Davis, 1996, 2000).

Teaching aspiring salespeople to use technology is a relevant application. With the increase in college and university sales programs over the past 10 years (Pullins & Buehrer, 2008; Pullins & Mallin, 2008), marketing/sales students as well as entry-level salespeople are taught to use technology-based SFA tools. The main purpose of these tools is to facilitate customer relationship management by enabling users to track customer information, schedule sales calls, and document the various stages of the sales and opportunity cycle. Exposing students to an SFA tool while in college serves to influence their perceptions of usefulness and relevance to their careers after graduation. Based on the context of the learning, marketing and sales students should develop perceptions of how well the tool will serve their future selling needs as well as their attitude toward the ease and utility of using the tool in their job (Mallin & DelVecchio, 2008). When individual character istics (e.g., self-efficacy, product knowledge, etc.) are controlled for (Speier & Venkatesh, 2002), measures of perceived usefulness and attitude toward technology should predict a student's intent to use a particular tool.

By integrating the technology-mediated learning and technology acceptance model literature, several interesting questions emerge. Does the technology acceptance model support multiple learning contexts? More specifically, does perceived usefulness and attitude toward the technology adequately predict a marketing and sales student's intent to use an SFA tool when the learning mode is task based and/or scenario based? Furthermore, does either of these modes provide stronger support for the technology acceptance model? In the next sections, we address these questions through hypothesis development and testing.

Hypotheses Development

Piccoli, Ahmad, and Ives (2001) drew on previous research in technology-mediated learning to conceptualize the determinants of learning effectiveness. One class of these variables, a design dimension, consists of factors relative to the learning approach and context. Learning approach compares an objectivist view to the constructivist view. In a sales learning environment, the former would consist primarily of information presented from an instructor in a lecture-type format. A discussion or dialogue would best exemplify the latter approach. Learning context centers on whether the information is presented as factual (e.g., system features), procedural (e.g., step-by-step instructions), or conceptual (e.g., how the system might be used). The research of Hsiao et al. (2006) also suggests that learning effectiveness depends not only on approach and context but also on instructional design that engages the learner and maximizes the likelihood that core concepts can be applied in a relevant setting. Relative to teaching marketing and sales students to use an SFA tool, the objectivist view with factual and procedural content presentation would be reflective of a task-based training context. A scenario-based context best depicts the constructivist view whereby learners are presented with conceptual knowledge grounded in relevant examples. We would expect that salesforce technology instruction using this latter approach would better explain a student's intent to use the technology. This is because individuals are more motivated when they "learn by doing" (Carroll & Carrithers, 1984; Carroll, Mack, Lewis, Grischkowsky, & Robertson, 1985; Carroll & McKendree, 1987). If a student can develop a better understanding of how an SFA tool can be used in a realistic sales situation, the likelihood should increase that he/she will view the tool as a relevant and useful aid to his/her job.

We expect that the model variables will predict usage intention under both learning contexts. However, the scenario-based learning approach should predict a greater portion of the model's variance because it places the learner in a realistic sales situation. Furthermore, using a scenario-based learning approach, individual model variables should have a greater impact on intent to use than in the task-based learning approach. The following hypotheses summarize these predictions:

Hypothesis 1: The technology acceptance model provides more explanatory power when the learning context used is scenario based versus task based.

Hypothesis 2: (a) A positive relationship exists between users' perceived usefulness of an SFA tool and his/her intent to use the tool. (b) The impact of perceived usefulness on intent to use is greater utilizing a learning context that is scenario based versus a learning context that is task based.

Hypothesis 3: (a) A positive relationship exists between users' attitude toward the SFA tool and his/her intent to use the tool. (b) The impact of a user's attitude toward the SFA tool on intent to use is greater utilizing a learning context that is scenario based versus a learning context that is task based.

To test the hypotheses developed in this section, we controlled for student *confidence* (in using) and *knowledge* of the SFA tool. This was done to be consistent with other technology acceptance model studies (e.g., Speier & Venkatesh, 2002), which suggest such individual characteristics are model covariates. These two variables in particular account for the subject's potential previous exposure to the same SFA tool being used in the class. Such exposure may have come from the subject's job (internship, part-time, full-time), other classes, or student organizations/activities (e.g., marketing projects, sales competitions, etc.).

Method

Sample and Survey

All study subjects were marketing and sales undergraduate students in an account and territory management professional sales class at a Midwest public university. As a part of the course, students were introduced to and participated in an SFA conceptual lecture and a hands-on SFA lab using the customer relationship management system called ACT! All students were given a survey as a homework assignment at the end of the semester. The purpose was to gauge the effectiveness of the SFA lab in both the short term and the long term so that the lab could be continuously improved. The seven-page survey collected demographic information and items measuring intent to use, perceived usefulness, confidence, knowledge, and attitude toward technology constructs. Points were assigned for completion and timely submission.

Survey data were collected in this manner over a span of 8 semesters (3.5 years) and 14 class sections. During this period, a total of 265 postcourse surveys were administered, and 252 surveys were completed for a response rate of 95%. During the first 3 semesters of this data collection period, 109 of these surveys were administered under conditions where the SFA lab portion of the course was delivered using the task-based contextual mode (completion rate of 97%). The user's manual detailing this approach was widely used in industry and recommended by a technology consulting firm. Each section was dedicated to a feature of the SFA tool.

Modifications were later made to the SFA lab, and the user's manual was updated to incorporate the scenario-based approach. This new scenario-based manual explained the who, what, why, when, and how of each sales cycle stage via storytelling so that the student could establish a learning context for understanding and adopting the technology. After this change and during the next 5 semesters, 143 surveys were administered where the SFA lab was taught using the scenario-based mode (completion rate of 94%).

The subject treatment described here was most practical (vs, a randomized distribution of task-based and scenario-based labs) because treating students from the same class section differently introduced some policy and administrative challenges. Because the data were collected across sections of the course taught by two different instructors, we conducted an analysis of variance using the variables in the study to test for differences between instructors (e.g., style, experience, pace, etc.). This test revealed no significant differences for any of the study variables. Because both instructors taught the course using the scenario-based approach, we are confident that data collection using multiple instructors did not present a major form of study bias. To compare and contrast the alternative learning contextual modes, sample assignments using the task-based and scenario-based approaches are illustrated in Figure 1.

Measures

Scales from previously used studies were adapted for use in our study. Intent to use was measured using three 7-point Likert-type scale items from E. Jones et al. (2002). Perceived usefulness was measured using six 7-point Likert-type scale items from Davis (1989). Confidence was measured using eight 10-point scale items from Speier and Venkatesh (2002). Attitude toward the technology was measured using nine 7-point Likert-type scale items from E. Jones et al. (2002). Finally, to measure users' knowledge, subjects were asked to check one of four boxes indicating their level of SFA capabilities knowledge. Sample items from these scales are included in the appendix.

Measure Validation

Convergent validity of the constructs was confirmed by computing the average variance extracted. These values are reported among the descriptive statistics in Table 1, and all exceed the .50 acceptable threshold suggested by Fornell and Larker (1981). In addition, all measurement items had significant loadings on their corresponding constructs. This, combined with the acceptable composite reliability measures, indicates convergent validity (Fornell & Larker, 1981).

Table 1. Means, Standard Deviations, and Correlations Among Variables

	1	2	3	4	5
1. Intent to use	(.95)				
2. Perceived usefulness	.64**	(.96)			
3. Attitude toward the technology	.48**	.43**	(.72)		
4. Knowledge of SFA tool	.26**	.26**	.11**	1	
5. Confidence	.40**	.41**	.34**	.31**	(.93)
Mean	5.75	6.04	5.27	2.75	7.31
Standard deviation	0.95	0.89	0.73	1.26	1.81
Average variance extracted	.90	.92	.52		.86

Note: SFA = salesforce automation. $N = 252$. Cronbach's alpha reliability scores are reported in parentheses on the diagonal.
**$p < .01$.

Table 2. Regression Results: Comparison of Learning Contexts on Intent to Use

Independent Variables	Model 1: Task-Based Learning Approach	Model 2: Scenario-Based Learning Approach	Hypothesis
Perceived usefulness	.41 (4.78)*	.68 (14.94)**	Hypothesis 2 (supported)
Attitude toward technology	.31 (3.67)**	.12 (2.53)*	Hypothesis 3 (partially supported)
Knowledge of SFA	.09 (1.27)	.07 (1.64)	
Confidence	–.02 (–0.29)	.04 (0.79)	
N	109	143	
F value	20.11**	94.87**	Hypothesis 1 (supported)
R^2	.41	.59	
Adjusted R^2	.39	.58	

Note: SFA = salesforce automation. For each variable, the reported values are standardized betas with corresponding *t* values in parentheses.
*$p < .05$. **$p < .01$.

Descriptive statistics and correlations among variables are also presented in Table 1.

Analysis

To test the hypotheses, separate linear regression models were run to compare the adjusted R^2 and *F* values of each technology acceptance model (task-based and scenario-based portions of the sample) as well as to test the significance of the independent variables (perceived usefulness and attitude toward the technology) on the dependent variable (intent to use). Significant differences between model *F* values as well as the magnitude, direction, and significance of each independent variable's beta and *t* value determined whether support for each hypothesis could be claimed. In both models, we included two variables, knowledge of SFA and confidence, to control for individual characteristics that prior studies suggest mediate/moderate the impact of external variables on usage intention (Speier & Venkatesh, 2002).

Results

The results of the regression models are shown in Table 2. Model 1 illustrates the portion of our sample that was taught using the task-based approach; Model 2 contains the results from the sample portion that was taught using the scenario-based approach. Model 1 explained 41% of the variance in intent to use ($R^2 = .41$; adjusted $R^2 = .39$; model F value = 20.11; $p < .01$). Model 2 explained significantly more variance in intent to use ($R^2 = .59$; adjusted $R^2 = .58$; model F value = 94.87; $p < .01$). Based on comparing the two models, we find support for Hypothesis 1—that the technology acceptance model provides more explanatory power when the learning context used is scenario based versus task based.

Hypothesis 2 tested the strength of the relationship of perceived usefulness to usage intent in both models. We find support for Hypothesis 2a because the relationship between perceived usefulness and intent to use was positive and significant (Model 1, $b = .41$, $p < .01$; Model 2, $b = .68$, $p < .01$). In addition, the magnitude of the perceived usefulness variable was greater in Model 2. This is supportive of Hypothesis 2b—that the impact of perceived usefulness on intent to use will be greater utilizing a learning context that is scenario based versus one that is task based.

The results for Hypothesis 3 were mixed. We find support for Hypothesis 3a because the relationship between attitude toward the SFA tool and intent to use was positive and significant (Model 1, $b = .31$, $p < .01$; Model 2, $b = .12$, $p < .05$). Because the effect of attitude toward the SFA tool on intent to use was not greater using the scenario-based approach, we

did not find support for Hypothesis 3b. In the next section, we speculate as to why this latter finding may have occurred.

Discussion

As expected, we found that the independent variables of the technology acceptance model explain more variance in usage intent when the learning context is scenario based. This supports the constructivist view of technology-mediated learning that posits that a more effective learning mode is one where instruction emphasizes a social and interactive learning context. This was the case for our sample of marketing and sales students who were given realistic sales circumstances to describe applications for the SFA tool's use in the real world of selling. Also, under this scenario-based approach, the perceived usefulness of the SFA tool seemed to be amplified. As predicted, this is likely due to the students finding the SFA tool as relevant to success in their future job function.

We found that confidence and knowledge control variables had no significant impact on intent to use. We surmise that this is because the sample was with undergraduate students who had extremely limited experience. Until students really get out in the working world to use the technology, confidence and knowledge can only be so high, thus limiting the variance of these two control variables. Furthermore, individuals by nature tend to be more/less confident, so altering the context of the learning approach may have only limited impact on learning outcomes.

An unexpected finding was that attitude toward technology was higher using the task-based approach than in the scenario-based approach. One possible explanation may stem from our sample. According to attitude theory (Fishbein & Ajzen, 1975), human behavior is predicated on an individual's positive or negative feelings about performing the target behavior. Because we studied student attitudes (vs. professional salespeople), the target behavior of our sample may have primarily been to earn a good grade in the class. Thus, a preference for the task-based step-by-step instruction may have been easier for students to master and a motivating factor to learning the SFA tool. In addition, whereas the scenario-based approach may improve the perceived usefulness, it does require more complex intellectual processing than the task-based approach. Requiring a level of critical thinking where the business scenario needs to be analyzed could have created more stress for the students—negatively affecting their attitude toward the tool.

Implications for Research, Practice, and Marketing Education

Our study validates the constructivist view of technology-mediated learning in the marketing and sales learning domain. It not only sensitizes us to the role that learning context plays in teaching marketing and sales technology but also shows its application to perceived usefulness and other antecedents to usage intent of SFA. Thus, researchers may be interested to further test applications of the technology acceptance model in various instructional settings. For example, users of technology need initial instruction as well as information to support continued use. Our research findings suggest that the context in which these informational sources are provided could help determine the successful adoption of a particular technology-based product. Another point of research interest from our study findings is the role of user's attitude toward the technology. Counter to what we thought, users' attitude toward the technology did not have a greater impact on usage intent in a learning context that was scenario based. In fact, it was less. Although we offered some speculation for this anomaly, it does present an opportunity for researchers to further explore the reasons why user attitude in a task-based learning context would facilitate a greater impact on usage intent.

For practicing sales and training managers, our findings can be used to improve corporate technology and SFA training. First, it is recommended that managers oversee the training process to ensure that modules are designed and delivered in a learning context that enables a salesperson to understand the actual sales situation in which the technology tool would be used. Second, it is important for the sales trainers to "set the stage" for the learners by engaging them in discussion to reinforce the importance of using the tool to facilitate specific sales behaviors. Finally, through communicating the steps necessary to use a particular SFA tool along with the rationale or benefit of its use, salespeople will likely find relevance and utility in the technology tool. Subsequent adoption could possibly improve sales technology investment returns through better productivity, sales performance, knowledge transfer, teamwork, forecasting, and other sought after sales organizational benefits.

For marketing and sales educators, our research findings provide the basis for some recommendations for teaching technology—particularly SFA. First, instructors should choose learning materials that balance teaching students the fundamentals (i.e., the "how to") with the circumstances, situations, or scenarios in which the tool features would be used. For example, when teaching a student how to use an SFA tool to add multiple customer contact information records, it is important to demonstrate why and how a salesperson might later use this to quickly and efficiently generate and send promotional mailings, newsletters, and other communications to his/her entire customer contact base. Second, ample opportunities for students to practice using the SFA tool in the classroom can serve to increase confidence in and knowledge of tool use. In the example of teaching ACT! in the classroom, the instruction manual (D. Jones, 2008) requires biweekly exercises and in-class activities. These applications of the tool walk a student through a sales cycle—from prospect to close and then follow-up. Each exercise/assignment builds on the previous one to aid students in understanding what they would do

(and why) to document a sales lead, schedule a follow-up, record details from a customer appointment, log the details of a sale, and so on. Furthermore, to demonstrate how sales managers might use ACT!, students are provided a scenario where a manager may require information on his/her salesforce and sales results. Students are required to run various sales reports designed to provide information needed to make managerial decisions.

Our findings also stimulate thought as to how marketing and sales students will approach their sales jobs after graduation. If an undergraduate SFA lab proves to have a significant and positive influence on adoption and performance in the workplace, then new standards for teaching SFA (in sales curricula) could be established. Such findings would also reinforce the importance of higher education's role in the training and development of future salespeople—enabling and empowering them to successfully navigate the knowledge-based global economy.

As a final consideration, the question of how much time to dedicate teaching SFA in the classroom should be addressed—especially with the likelihood that companies typically will incorporate training using their own SFA tools. As a guideline, at least a baseline knowledge of SFA—its purpose, benefits, and applications—should be taught in the basic marketing and/or sales curriculum. Seeing that customer relationship management has become a cornerstone of effective marketing strategy, this should be a fundamental marketing/sales concept. For students majoring in sales, a working knowledge of SFA is critical, and at least a third of a course should be dedicated to "hands-on" practice of SFA. A working knowledge of an SFA tool will give new employees an advantage over other new hires as their learning curves are not as steep. Anecdotally, multiple alumni from this sample have said that the SFA lab was a noticeable advantage for them to get a sales job, ramp up quicker, and perform better.

Conclusion

With firms focused on increasing efficiency and effectiveness in today's competitive marketing and sales environment, it is crucial to understand the learning methods that will facilitate greater salesperson adoption of the technologies that firms invest in. Our study focused on the technology-mediated learning environment and how the use of two different contextual learning modes affected future sales professionals' perceptions of technology usefulness, attitudes toward the technology, and ultimately adoption of the technology. From our study, we conclude that when sales students were taught using a contextual approach involving a realistic sales scenario, the impact of their perceptions of usefulness of the technology relative to usage intent was greater than if the course instruction was delivered using a systematic task-based approach. These findings support the constructivist view of technology-mediated learning, which states that the effective learning context is one where the emphasis is on a more interactive way of instruction. By providing marketing and sales students with a learning program that allows them to use an SFA tool in a manner that correlates with its use in an actual sales role, they are likely to see its relevance on entering the workforce. This study also helps advance technology training, signaling to developers the importance of designing an approach to make salespeople think through realistic sales situations. The benefits of doing so will be an increased likelihood of subsequent adoption of the technology. Although more research is needed to further validate these conclusions, our hope is that we have provided a stepping-stone for marketing and sales educators as well as training managers to build in ways to more effectively teach/train SFA technology.

Limitations and Further Research

A methodological limitation of our study was our comparison of the two learning contexts using unequal subsample sizes (Models 1 and 2). This potentially could be responsible for some slightly skewed results. In addition, our sample was collected across two instructors. Although statistical testing for differences among our variables of interest was not significant across instructors, varying instructor style, experience, pace, and so on may have a limited bias effect on our findings and conclusions.

Further research in this area might include a longitudinal study where these marketing and sales students are surveyed at regular intervals on entering the workforce after graduation. This could help discern if intervention in college has an effect on technology adoption in the workplace. Other factors such as the availability of SFA tools, company training programs, and voluntary versus required usage could be studied as potential mediating/moderating factors to SFA tool adoption.

Appendix

Sample items from scales used in the study

Intent to Use SFA: 7-Point Likert-Type Scale Anchored by 1 = *Strongly Disagree* to 7 = *Strongly Agree*
For future work, I would like to use SFA.
I intend to make regular use of SFA for my work when it becomes available.
When it is available, I will likely use SFA for my work.
Perceived Usefulness: 7-Point Likert-Type Scale Anchored by 1 = *Strongly Disagree* to 7 = Strongly Agree
Using SFA in my job would enable me to accomplish tasks more quickly.
Using SFA would improve my performance.
Using SFA in my job would increase my productivity.
Using SFA would enhance my effectiveness on the job.
Using SFA would make it easier to do my job.
I would find SFA useful in my job.

(continued)

Appendix (continued)

Attitude Toward the Technology: 7-Point Likert-Type Scale Anchored by 1 = *Strongly Disagree* to 7 = *Strongly Agree*
I would like to see part or all of my job done by a computer.
Computerizing part of my job would make me more competitive.
Using a computer would significantly increase my sales productivity.
Using a computer would significantly increase my satisfaction with my job.
I like the idea of learning new ways to use a computer.
I would discourage anyone from allowing a computer to become an active part of the selling process. (reversed)
I am concerned that I might lose my job because of the increasing emphasis on computer technology in sales. (reversed)
I think the introduction of computer technology will result in a loss of employee's privacy. (reversed)
I would not feel comfortable using a computer to interact with customers. (reversed)
Confidence: 10-Point Scale Anchored by 1 = *Not At All Confident* to 10 = *Totally Confident*
I could complete a job using an SFA software package . . .
If there was no one around to tell me what to do.
If I only had the software manuals for reference.
If I had a lot of time to complete the job for which the software was provided.
If I had seen someone else using it before trying it myself.
If someone else had helped me to get started.
If I could call someone for help if I got stuck.
If I had just the built-in help facility for assistance.
If someone showed me how to do it first.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

References

Alavi, M., & Leidner, D. E. (2001). Technology-mediated learning—A call for greater depth and breadth of research. *Information Systems Research*, *12*(1), 1-10.

Avlonitis, G. J., & Panagopoulos, N. G. (2005). Antecedents and consequences of CRM technology acceptance in the sales force. *Industrial Marketing Management*, *34*, 355-368.

Barr, T. F., & McNeilly, K. M. (2002). The value of students' classroom experiences from the eyes of the recruiter: Information, implications, and recommendations for marketing educators. *Journal of Marketing Education*, *24*, 168-173.

Bonk, C. (2003). I should have known this was coming: Computer-mediated discussions in teacher education. *Journal of Research on Technology in Education*, *36*, 95-102.

Carroll, J. M., & Carrithers, C. (1984). Training wheels in a user interface. *Communications of the ACM*, *27*, 800-806.

Carroll, J. M., Mack, R. L., Lewis, C. H., Grischkowsky, N. L., & Robertson, S. R. (1985). Exploring a word processor. *Human-Computer Interaction*, *1*, 283-308.

Carroll, J. M., & McKendree, J. (1987). Interface design issues for advice-giving expert systems. *Communications of the ACM*, *30*, 14-31.

Celuch, K., Taylor, S. A., & Goodwin, S. (2004). Understanding insurance salesperson Internet information management intentions: A test of competing models. *Journal of Insurance Issues*, *27*, 22-40.

Chapman, J. D., & Avila, R. A. (1991). Sales training for students: An experiential approach. *Marketing Education Review*, *1*, 54-59.

Comeaux, P., & McKenna-Byington, E. (2003). Computer-mediated communication in online and conventional classrooms: Some implications for instructional design and professional development programmes. *Innovations in Education & Teaching International*, *40*, 348-355.

Connor, C. (2003). Virtual learning and inter-professional education: Developing computer-mediated communication for learning about collaboration. *Innovations in Education & Teaching International*, *40*, 341-347.

Cron, W. L., & Marshall, G. W. (2005). Salesperson selection, training, and development: Trends, implications, and research opportunities. *Journal of Personal Selling & Sales Management*, *25*, 123-136.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *September*, 319-340.

El-Ansary, A. I. (1993). Selling and sales management in action: Sales force effectiveness research reveals new insights and reward-penalty patterns in sales force training. *Journal of Personal Selling & Sales Management*, *13*, 83-90.

Erffmeyer, R. C., & Peterson, R. M. (2008, April). Competing for experience. *Selling Power Magazine* (Suppl.), p. 21.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fornell, C., & Larker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*, 39-50.

Goldgehn, L. A. (1989). Student placement: The challenge of helping our undergraduate marketing students prepare for the job marketplace and their careers in marketing. *Journal of Marketing Education*, *11*, 78-82.

Hahne, C. E. (1977). How to measure results of sales training. *Training & Development Journal*, 31(11), 3-7.

Hsiao, R. L., Kuo, F. Y., & Chu, T. H. (2006). The more we study, the less we learn: A primer on the analysis of TML effectiveness. *Journal of Organizational Computing and Electronic Commerce*, *16*, 149-176.

Ingram, T. N., & Schwepker, C. H., Jr. (1992). Why salespeople fail. *Industrial Marketing Management*, *21*, 225-230.

Jones, D. (2008). Don't let the opportunity pass you by . . . ACT! A guide to sales resource management using sales force automation technology. *ACT! 2008 Premium for Web*, 10.0.1.167, 1-54.

Jones, E., Sundaram, S., & Chin, W. (2002). Factors leading to sales force automation use: A longitudinal analysis. *Journal of Personal Selling & Sales Management*, *22*, 145-156.

Kelley, C. A., & Bridges, C. (2005). Introducing professional and career development skills in the marketing curriculum. *Journal of Marketing Education*, *27*, 212-218.

Leach, M. P., & Liu, A. H. (2003). Investigating interrelationships among sales training evaluation methods. *Journal of Personal Selling & Sales Management*, *23*, 327-339.

Leigh, T. W. (1987). Cognitive selling scripts and sales training. *Journal of Personal Selling & Sales Management*, *7*, 39-48.

Longfellow, T. A. (1995). A preliminary study of the effects of the field sales manager's efforts in training in marketing planning on salesperson motivation, role perceptions, and satisfaction. *Journal of Personal Selling & Sales Management*, *15*, 69-74.

Mallin, M. L., & DelVecchio, S. K. (2008). Salesforce automation tool selectivity: An agency theory perspective. *Journal of Business and Industrial Marketing*, *23*, 486-496.

Mathieson, K. (1991). Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior. *Information Systems Research*, *2*, 173-191.

Morgan, A. J., & Inks, S. A. (2001). Technology and the sales force. *Industrial Marketing Management*, *30*, 463-472.

Oliver, R., & Herrington, J. (2003). Exploring technology-mediating learning from a pedagogical perspective. *Interactive Learning Environment*, *11*, 111-126.

Piccoli, G., Ahmad, R., & Ives, B. (2001). Web-based virtual learning environments: A research framework and a preliminary assessment of effectiveness in basic IT skills training. *MIS Quarterly*, *25*, 401-426.

Powell, W. (2001). Train today, sell tomorrow. *T+D*, *55*(9), 40.

Pullins, E. B., & Buehrer, R. E. (2008, April). Professional selling gets an MBA. *Selling Power Magazine* (Suppl.), p. 15.

Pullins, E. B., & Mallin, M. L. (2008, April). Millennial salespeople face challenges. *Selling Power Magazine* (Suppl.), p. 21.

Rangarajan, D., Jones, E., & Chin, W. (2005). Impact of sales force automation on technology-related stress, effort and technology usage among salespeople. *Industrial Marketing Management*, *34*, 345-354.

Schillewaert, N., Ahearne, M. J., Frambach, R. T., & Moenaert, R. K. (2005). The adoption of information technology in the sales force. *Industrial Marketing Management*, *34*, 323-336.

Speier, C., & Venkatesh, V. (2002). The hidden minefields in the adoption of sales force automation technologies. *Journal of Marketing*, *66*, 98-111.

Taylor, K. A. (2003). Marketing yourself in the competitive job market: An innovative course preparing undergraduates for marketing careers. *Journal of Marketing Education*, *25*, 97-107.

Turley, L. W., Shannon, R. J., & Miller, M. J. (1993). International marketing: Student attitudes and behavior. *Marketing Education Review*, *3*, 52-57.

Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating perceived behavior control, computer anxiety and enjoyment into the technology acceptance model. *Information Systems Research*, *11*, 342-365.

Venkatesh, V., & Davis, F. D. (1996). A model of the antecedents of perceived ease of use: Development and test. *Decision Sciences*, *27*, 451-481.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *45*, 186-204.

Wilson, P. H., & Strutton, D. (2002). Investigating the perceptual aspect of sales training. *Journal of Personal Selling & Sales Management*, *22*, 77-86.