THE DUALITY OF E-MONITORING: HARMFUL OR HELPFUL?

SUSAN K. DELVECCHIO, East Carolina University

Sales managers today can use information technology systems to monitor every step of the selling process, from tracking leads to closing. Managerial monitoring may harm some forms of motivation while encouraging still others. Working within the conceptual framework of self-determination theory this study tested for these effects. According to the industrial salespeople surveyed in this research effort, managerial monitoring has a positive effect on sales orientation. Salesperson's motivation to work hard was also influenced by higher levels of perceived managerial e-monitoring. Salespeople perceive e-monitoring to serve more internal purposes such as achieving sales goals or increasing the level of their sales efforts. The harmful effects of e-monitoring, however, were not supported. This may suggest salespeople are less threatened by the technology that increases their visibility.

INTRODUCTION

No longer restricted to direct face-to-face observation, sales managers are harnessing the power of technology to monitor every step of the sales process (Schulman, 2001; Stakenas, 2012). Just as the salesperson has moved beyond adoption to integrating SFA (sales force automation) tools, so too has the sales manager. Every time a salesperson uses SFA, a trace is created which can be monitored. For example by using events timeline logging, a manager can know how long each program was used, the websites visited and the documents printed. Sales organizations are using software like LaunchForce that tracks salesperson's use of information sources (Weinreb, 2002). E-monitoring has been defined as the use of computer systems to collect, store, analyze and report individual or group actions or performance (Nebeker & Tatum, 1993). While research has examined the effect of e-monitoring on compliance with ethical standards, less is known about its effect on salesperson motivations and orientations (Bush, Bush, & Orr, 2010).

This research gap exists in no small part because of the rapid pace of change in e-monitoring. According to annual surveys conducted by American Management Association there has been a steady increase in employee monitoring. In 1997 15% of all surveyed companies reported monitoring their employees (American Management Association, 2008). By 2001 that number had risen to 46%. The 2007 report estimates 66% of companies monitor Internet connections. Forecasts for 2015 indicate e-monitoring has extended far beyond just e-mail to employees use of social media (Flynn, 2014). Not only are usage rates increasing, new e-monitoring tools (both software and hardware) are being developed (Wakefield, 2004). E-monitoring can be powerful tool for field sales managers and we need a deeper understanding of its effect.

Keeping up with this pace of change has proven to be a research challenge. This study addresses these challenges and in doing so fills gaps in our understanding. Some sales management studies offer speculations, but do not test the effect of e-monitoring. Post hoc discussion of sales information technology point to unexpected findings and discuss the possibility that salespeople are reacting to managerial monitoring (Moutot & Bascoul, 2008; Sundaram , Schwarz, Jones, & Chin, 2007; Robinson, Marshall, & Stamps, 2005; Speier & Ventatesh, 2001). A few studies which have empirically tested monitoring's effect have focused on the prevention of unethical behaviors (e.g. Busch, Bush, & Orr, 2010; Cicala, Bush, Sherrell, & Deitz, 2014; Harris & Ogbonna, 2006). None to date have examined the degree to which monitoring

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effects motivations and orientations. Monitoring is being done for both preventative as well as developmental reasons (Stanton & Stam, 2006). At this point in the sales management literature we know more about the preventative than we do developmental aspects of e-monitoring.

If e-monitoring did not differ from other forms of monitoring (such as face-to-face observation), this lack of knowledge would not be a problem. Management literature, however, strongly suggests e-monitoring differs (e.g. Stanton & Sarkar-Barney, 2003; Watson et al., 2013). Unlike other forms of monitoring, e-monitoring provides voluminous data about multiple dimensions of performance. E-monitoring is constant, pervasive and unblinking (Aiello, 1993). The reactions to e-monitoring are more varied than the reactions under face-to-face monitoring (Kluger & DeNisi, 1996). When a firm is depending on the field salesperson to generate revenue and solve customer problems, these differential reactions may be problematic.

A challenging aspect of field sales is the need to blend motivation to work hard with motivation to work smart. Similarly, a salesperson must be customer oriented while still achieving sales goals. From a practical viewpoint, salespeople must blend customer and sales orientation. From a conceptual viewpoint, monitoring may have differential effects on each. To examine these possible harmful and helpful effects, this research builds on the framework of self-determination theory to integrate relevant sales management and electronic performance monitoring literature. Self-determination theory has proven to be a strong theoretical platform for explaining volitional behaviors (Deci, Koestner, & Ryan, 2001). Self-determination theory (SDT) proponents believe the most powerful motivations are those that were self-selected. According to SDT an employee will persist in an activity (i.e. be highly motivated) when their needs for autonomy and competence are being met (Deci, Connell, & Ryan, 1989). Managerial actions, which feed or thwart these needs (for feelings of autonomy and competence), will cause changes in employees' motivation. Thus SDT offers a conceptual framework for examining the possibility of varied reactions of salespeople to e-monitoring. Based on the SDT concepts and studies, the hypothesized effects of e-monitoring are empirically examined.

E-monitoring and Salesperson Motivation: Working Hard and Working Smart

Working hard describes the *level* of motivation and working smart describes the *direction* of motivation. Working hard reflects the amount of effort the salesperson puts toward his or her work, either by working more hours or working more intensely during those hours, whereas working smart reflects planning, adapting and analyses (Sujan, Weitz, & Kumar, 1994). For example, a salesperson working hard may increase the number of sales calls made or proposals submitted. This persistence in the face of buyer rejection or resistance is one part of sales success. Equally important is the ability of the salesperson to offer thoughtful solutions. A salesperson working hard will engage in more cold calls and a salesperson working smart will use analyses to customize an approach to a select few potential customers. Thus working smart requires analysis and planning whereas working hard requires persistence and tenacity (Klehe & Anderson, 2007). Both forms of motivation (working hard and working smart) have been linked to sales productivity (Holmes & Srivastava, 2002).

While these two forms of motivation contribute to successful outcomes, self-determination theory contends managerial monitoring will not have the same effect on each (Shalley & Perry-Smith, 2001). Sales managers can monitor indicators of working hard (e.g. tracking the number of customers contacted) as well as working smart (e.g. the use of CRM analysis). Theoretically monitoring may not have the same impact on these two forms of motivation. Self-determination theory (SDT) contends motivation will only be optimized when the employees feel competent and autonomous (Ryan & Deci, 2002). Managerial monitoring has mixed effects; enhancing one need and diminishing another (Stanton & Stam, 2006). The subsequent sections first describe the positive effect monitoring may have on working hard then describe the negative effect monitoring may have on working smart.

According to self-determination theory, a salesperson will be motivated to expend more effort (i.e. work hard) if he or she feels competent (Ryan & Deci, 2002). A field salesperson must be motivated to make yet one more sales call or submit additional proposals. Exerting this level of effort in the face of buyer rejection or resistance is aided when the salesperson feels competent in doing so. Feelings of competency will increase the salesperson's belief that the extra effort will result in success. Typically a salesperson working hard will make more sales calls and can generate incremental sales. The monitoring of the salesperson's number of calls and resultant success rate provides feedback that builds competence. To the degree that monitoring provides this type of feedback, then self-determination theory claims monitoring should provide the quantitative indicators which bolster feelings of competency. When monitoring feeds those feelings of competency the salesperson will find monitoring stimulates higher levels of effort (i.e. working hard).

Working hard tends to be a form of motivation more commonly used when the salesperson seeks immediate outcomes or is extrinsically motivated (Miao, Evans, & Zou, 2007). When the salesperson is working hard they tend to do so in an effort to achieve immediate or short-term goals. In their longitudinal study Moutot and Bascoul (2008) found salespeople engage in this form of activity (i.e. making more sales calls or submitting more sales proposals) when managers use computer monitoring. This finding in the field sales setting has been verified in controlled lab experiments as Stanton and Julian (2002) found effort levels were higher when subjects were monitored. Subjects and salespeople may find the attainment of short term goals was possible with working hard. The immediacy of monitoring systems provided feedback to reinforce the link between level of effort and results (McNall & Roch, 2007; Goomas & Ludwig, 2009). When electronic performance monitoring is in place, working hard (e.g. making numerous sales calls) is a fast way of increasing quantitative indicators. To the degree that electronic performance monitoring encourages the pursuit of quantitative indicators of achieving short term goals, one might expect a positive relationship between electronic performance monitoring and working hard.

> **H_1:** Higher levels of electronic performance monitoring will be associated positively with a salesperson's willingness to work hard.

In comparison to working hard, working smart refers to the direction of effort and places more attention on planning and the development of adaptive selling skills (Rapp, Ahearne, Mathieu, & Schillewaert, 2006). The adaptive salesperson will analyze each situation, decide on an appropriate course of action and propose a customized solution. Thus, working smart requires the salesperson to be flexible in the options selected and feel they have the discretion to do so. As a result, working smart is highly dependent on the salesperson feeling autonomous. When job-related autonomy is reduced, employees feel less ownership over the task (Druskat & Wheeler, 2003). Lacking ownership over the task, the employee may be less inclined to engage in planning (or working smarter) to achieve the task. SDT claims managerial monitoring tends to be perceived by those being monitored as controlling, judgmental and restrictive (Deci & Ryan, 1985). In a sales setting, Johnson and Bharadwaj (2005) suggest this may be the case as they found the combination of a high degree of managerial monitoring had an adverse effect. In a similar task setting (i.e. complex tasks completed with autonomy) interviews with non -sales employees suggest computer monitoring reduced employees' ability to set their own priorities and select their own methods (Zweig & Webster, 2002). The field salesperson works independently at the boundary of the sales organization to provide value to each customer. When monitoring is believed to serve the purposes of controlling, then autonomy needs of the salesperson are not being met. If a salesperson's autonomy needs are diminished, then theoretically (i.e. self-determination theory) motivation to work smart will suffer.

Because working smart requires a higher level of preparation than working hard, this form of motivation spans a longer period of time. The problem inherent in monitoring systems is the common perception among employees that

these systems favor short term rather than long term results (Kluger & DeNisi, 1996). Given this common perception, the mere existence of e-monitoring in the field sales setting may discourage salespeople from trying new solutions or developing analytical skills. The lag between successful outcomes or skill competence may act as a deterrent to working smart in a highly monitored work environment. Repeatedly studies have found that self-directed learning tends to have a longer and more positive effect – and are less likely in highly monitored conditions (Deci, Koestner, & Ryan, 2001; Jensen & Raver, 2012; Roca & Gagne, 2008). Self-determination theory suggests the highly monitored field salesperson will feel less autonomous, less likely to invest in acquiring new skills and less likely to be motivated to work smart.

H_2: High levels of electronic performance monitoring will be associated negatively with a salesperson's willingness to work smarter.

Electronic Performance Monitoring and Sales Orientation-Customer Orientation

The primary focus of a salesperson can be described in terms of their emphasis on getting sales results or solving customer problems. Sales orientation places emphasis on getting buyer commitments, closing the sale, and meeting quotas. A customer oriented, salesperson, however, advocates for the customer and explains customer needs to departments within his or her sales organization. While customer orientation tends to be the approach endorsed by marketing firms, salespeople must achieve sales organization goals (Homburg, Muller, & Klarmann, 2011).

A sales orientation places emphasis on the outcomes and results – and with those results the extrinsic rewards. Salespeople with a strong sales orientation tend also to be extrinsically motivated (Saxe & Weitz, 1982). Because sales quotas are tied to corporate goals, it is safe to describe the achievement of sales outcomes as one relying on more extrinsic forms of motivation. The salesperson who adopts a high level of sales orientation, therefore, has a higher concern for showing progress toward achieving the sales goals and has a higher concern for impressing his or her internal constituents (i.e. sales managers). This implies the prime motivation behind sales orientation is influenced more by externalities (i.e. financial reward or supervisory endorsement). The extrinsic nature of rewards will be consistent with the activity of managerially monitoring progress toward sales goals. The very act of monitoring the actions of another, according to self-determination theory, will crowd out intrinsic and increase extrinsic reward orientation (James, 2005). To the degree that monitoring is external to the salesperson and that salesperson is pursuing extrinsic rewards, then one might expect a positive relationship.

On a practical note, monitoring may provide a frequent reminder of progress toward quota achievement. Sales management research suggests highly monitored salespeople will be concerned with doing what is required of them. For example, Schepers, Falk, Ruyter, Jong, and Hammerschmidt (2012) found managerial monitoring and salesperson in-role behavior was highly correlated (at .45 levels). To the degree that in-role behaviors focus on achieving quota, then monitoring may enhance sales orientation. This desire to demonstrate proficiency to others has been shown to be an important factor in electronic performance monitoring (EPM) (Watson et al., 2013). The mechanism through which EPM has this effect may rest in the ability of EPM to provide specific performance information. EPM increases managements' ability to gather these indicators. The salesperson seeking to provide management with evidence of their efficacy will focus on sales outcomes. Thus the field salesperson seeking to provide management with evidence of their sales abilities may develop a higher level of sales orientation under high EPM levels. Conceptually and practically, monitoring may feed the fact and feeling of competency in achieving sales goals, the result of which may be higher levels of sales orientation.

H_3: Higher levels of electronic performance monitoring will be associated with higher levels of

sales orientation in salespeople.

A customer oriented salesperson tends to avoid sales tactics that put customer interests at risk and seek out tactics that build customer relationships (Saxe & Weitz, 1982). When a salesperson is oriented toward customers, they invest time in understanding the customer's problem and proposing effective solutions. Thus a customer oriented salesperson must be able to respond to a variety of customer needs, engage in creative problem solving and feel empowered in their customer interactions (Martin & Bush, 2006). It is this requirement (of creativity, flexibility and empowerment) that ties customer orientation to more intrinsic forms of motivation.

A salesperson who adopts a customer orientation will attempt to identify the unique needs of each customer and engage in adaptive selling behaviors (Franke & Park, 2006). This orientation will require a series of complex tasks; from discerning important customer needs to proposing an applicable solution. The pursuit of these more cognitively challenging tasks will be more likely when the salesperson enjoys this challenge and takes pleasure in skill development (Miao, Evans, & Zou, 2007). The motivation to improve, to learn or to expand abilities is a deeper level of motivation. This deeper level of motivation is more likely when it is self-determined. A self-determined level of motivation will not occur unless the employee feels they made their own choices and have the ability to complete the tasks (Deci & Ryan, 1985). The problem, however, is that monitoring professional level employees who are engaged in finding creative solutions to ambiguous problems may erode feelings of autonomy.

Sales manager monitoring may be perceived by subordinates to be constrictive. A field salesperson may restrict the range of responses to customer problems when he or she knows the response may trigger a component being monitored by management. For example, if a field salesperson knows credits are monitored, he or she may be less likely to authorize returns. The findings of Sewell and Barker (2006) suggest professional level employees are more likely to find monitoring as invasive and diminishing their abilities. To the degree that salespeople serve as application engineers, consultants and take on the role of knowledge workers, one might expect this same negative reaction (Auh & Menguc, 2013; Verbeke, Dietz, & Verwaal, 2011). Frequently sales force automation (SFA) studies include this negative reaction as a speculative reason for salesperson resistance to fully using SFA tools (Robinson, Marshall, & Stamps, 2005; Speier & Venkatesh, 2002). These perceptions of control and restrictions could affect selling behaviors. In the field sales setting this may result in fewer and less creative approaches to solving customer problems (Wang & Netemeyer, 2004). Interviews of sales and non-sales employees found electronic performance monitoring is associated with a loss of empowerment and a perceived lack of freedom (Allen, Coopman, Hart, & Walker, 2007; Bush, Bush, Orr, & Rocco, 2007).

Stanton and Stam (2006) argue that by restricting employee freedoms, electronic performance monitoring will reduce the likelihood that an employee will possess a high concern for others. Certainly the field experiment conducted by O'Donnell, Ryan, and Jetten (2012) confirms this argument as they found helping behavior was far less likely under high monitoring conditions. To the extent that electronic performance monitoring results in less salesperson empowerment and more managerial control, one can hypothesize a negative relationship between electronic performance monitoring and customer orientation.

H_4: Higher levels of electronic performance monitoring will be associated with lower levels of customer orientation in salespeople.

In summary, the expectation is that e-monitoring will harm working smart and customer orientation while enhancing working hard and sales orientation (See Figure #1). To provide a rigorous test, the study design controlled for two possible covariates. Experience of the salesperson and the culture of the organization are the covariates as they could affect these hypothesized relationships. Specifically Rapp et al. (2006) found experience acted as a moderator in their analysis of motivation to work hard or work

smart. Similarly Sewell and Barker (2006) contend employees' perceptions of managerial actions may be favorable or unfavorable depending on the prevailing values and culture of the employing organization. Thus experience and organizational culture will be measured and statistically controlled in this test of the four hypotheses.

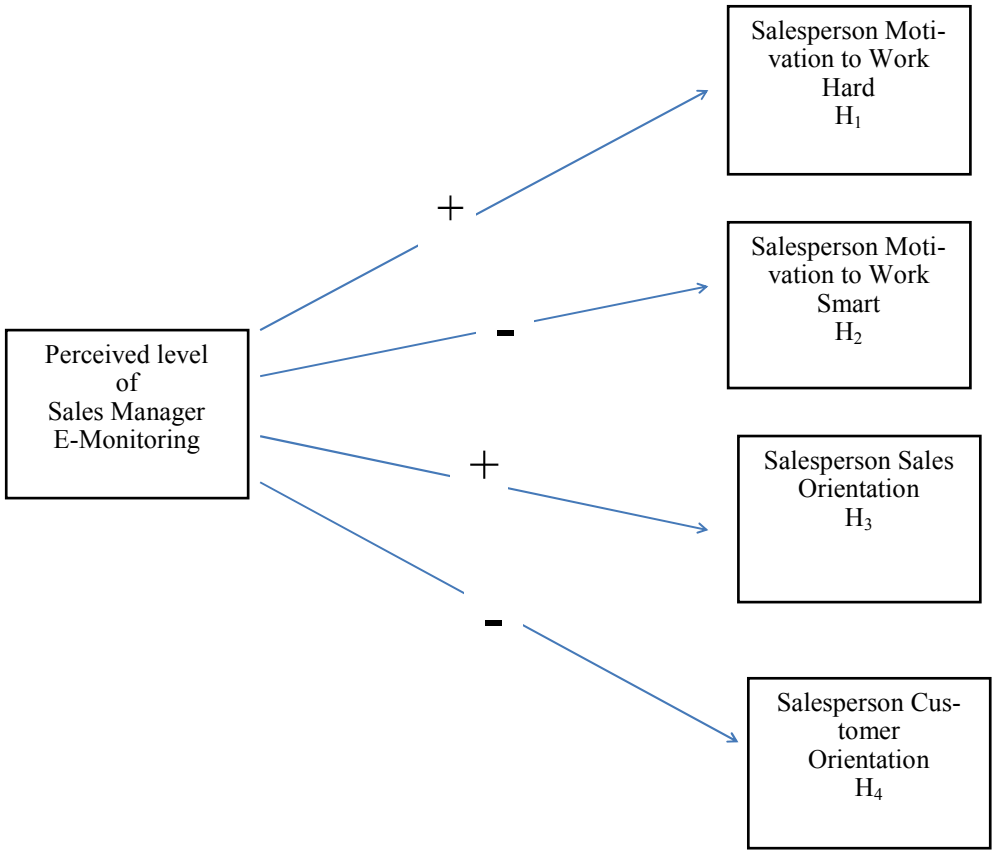
METHOD

Data Collection and Samples

The sampling frame was created by generating a list of randomly selected manufacturing firms from the American Business Directory database. Each firm was screened to include only those firms who employed their own sales force (no agents or outside reps). Those manufacturers who employed a geographically dispersed field sales force and made the investment in supplying their employees with IT tools were deemed appropriate respondents for this study. Firms who agreed to participate were mailed a packet of materials for each of their salespeople. Responses were sent directly to university researcher to assure confidentiality. One reminder request was mailed to non-respondents three weeks later.

Two samples were generated using this method; one set for pretesting the electronic performance monitoring scale and another set to test the hypotheses. Response rates for both datasets fell within typical ranges as described by Carter, Dixon, and Moncrief (2008), (i.e. pretest dataset response rates of 29.6% as 101 complete responses were received from the 341 distributed and 23.6% for the full scale dataset resulting in 189 usable responses). Two comparisons were conducted in an effort to evaluate the representativeness of the samples; (1) responding firms size and industry profile was compared to that of nonresponding firms

FIGURE 1:
Hypothesized Relationships



and (2) respondents drawn from the ABI database to those members of a similar database. No proportional differences exist in terms of company size as indicated by the number of either employees or annual revenue. These comparisons imply the data are untainted by nonresponse bias. Table 1 summarizes the demographic profile of the full scale data collection effort (i.e. n=189 dataset used to test the hypotheses). These 189 responses were collected from 67 industrial firms engaged in various manufacturing processes (i.e. SIC 2000 to 3900). The average number of respondents per company was 3 (ranged from 1 per firm to 5).

In addition to comparing respondents to nonrespondents, the pre-test sample was compared to the full scale sample (See Appendix A). The samples were similar in terms of salesperson demographics or compensation methods. MANOVA testing for differences in 6 variables (sales compensation, number of customers per territory, salesperson experience, salesperson education, annual revenue and total number of employees carried an overall F of 1.82 (probability of .09). The Scheffe pairwise comparison (using .05 as the critical value) indicates both revenue and employees differed between pretest and full

TABLE 1:
Demographic Profile
N=189

Sales Compensation	
Straight Salary	24%
Straight Commission	29%
Combination	47%
Number of Customers in Territory	
Less than 25 accounts	17%
25-100 accounts	41%
101-200 accounts	24%
201 or more accounts	18%
Salesperson's Experience with Firm	
Less than 1 year	5.9%
1-3 years	17.8%
4-6 years	18.2%
7-9 years	12.3%
10-12 years	11.8%
13 or more years	34.0%
Gender	
Male	86%
Female	14%
Age	
25 or younger	-
25 to 34	15%
35 to 44	27%
45 to 54	34%
55 to 64	20%
Over 64	4%

scale samples. The pretest sample tended to be comprised of respondents working for smaller firms. Since it is likely IT investments of smaller firms will differ from those of larger firms, the characteristics of IT systems were measured and compared. These two samples did not differ in terms of their sophistication as indicated by network capabilities, data access, or connectivity (Appendix B). Given these similarities, it was likely the results of pretesting the electronic performance monitoring scales would be indicative.

Measures

With the exception of electronic performance monitoring all variables were measured using pre-existing scales. Electronic performance monitoring measure was tested using both pretest and full scale data sets. This five item scale asked respondents to rate the degree to which they believed sales management used data from their IT system to control their sales efforts. (See Table #2 for a listing of all five items). Work smart measures the direction of effort while work hard is designed to measure the amount of effort (Sujan, Weitz, & Kumar, 1994). The SOCO scale items describe the salespersons desire to help customer assess their needs (customer orientation) and/or the salespersons' emphasis on closing the sale regardless of customer concerns (i.e. sales orientation) (Saxe & Weitz, 1982).

Analyses

All of the dependent variables were tested simultaneously across levels (low to high) of electronic performance monitoring using multiple analysis of variance (MANOVA) procedures. To allow for a more precise test of the hypothesized effects of electronic

TABLE 2:
E-Monitor Scale Properties: Pretest and Full Scale Datasets

Bold font=pretest dataset results (n=108)
Regular font =full scale dataset results (n=189)

	Items	Std. β	
Mean	Management uses the information from our sales systems to tell me what	**.75**	C.R.
19.88	specific selling behaviors I ought to be doing on my job.	.66	**.86**
16.51			.82
	Management uses the information from our sales systems to monitor and	**.82**	
	control my selling efforts.	.52	V.E.
Std.			**.56**
Dev	Information from my company's sales systems I used by management to	**.81**	.48
6.62	point out to me when I am not using the right selling techniques.	.77	
5.86			
	Information from my company's sales systems is used by management	**.83**	
	to pressure me to use specific selling methods.	.68	
	Information from my company's selling systems is used by management	**.48**	
	to tell me what specifically I should be doing on my job.	.80	

	Measurement Model Properties	**Pretest**	Full Scale
	Chi-Square	**10.06 (prob=.0736)**	19.60 (prob=.0015)
	Goodness of Fit Index	**.9659**	.9569
	Bentler-Bonnett Non-normed Index	**.9586**	.9051

performance monitoring, covariates were included in subsequent multiple analysis of covariance (MANCOVA). The MANCOVA sought to control for salesperson experience and organizational culture. Both experience and organizational culture share a close relationship with motivation and orientation (Rapp et al., 2006; Sewell & Barker, 2006. Thus the MANOVA results were verified by adjusting the mean level of working smart, working hard, sales orientation and customer orientation for these covariates (e.g. the MANCOVA results were compared to MANOVA to provide stronger evidence of any possible main effects of electronic performance monitoring levels).

RESULTS

Measurement Assessments

Pretest results support the internal consistency of the electronic performance monitoring measure (composite reliability of .86 and variance extracted of .56). Confirmatory factor analyses yielded a goodness of fit index of .9659 (Bentler-Bonnet Non-Normed Index of .9586). Pretest results indicate this measure demonstrates a meaningful degree of nomological validity as it was significantly correlated with every indicator of IT capability (Grewal, Charkravarty, & Saini, 2010). Specifically, electronic performance monitoring scale shared a significant correlation with network connectivity (r=.32), directional flow (r=.22) and wireless systems (r=28).

Analyses of the full scale dataset suggest the measure of e-monitoring demonstrates acceptable levels of reliability (composite reliability .82) and similar factor patterns to those of the pretest results (See Table #2). Factor loadings ranged from .52 to .80 suggesting convergent validity. Discriminant validity was tested through the application of Fornell and Larker's (1981) test which recommends comparing the average variance extracted with the variance shared between the e-monitoring construct and all other constructs. The average variance extracted estimates were greater than the squared correlations between e-monitoring and each of the other constructs.

Reliabilities fell within acceptable ranges (between .71 and .86) for customer orientation, sales orientation and working hard (See Table #3). Confirmatory factor analyses revealed that indicators loaded significantly on its designated factor and produced a chi-square/ degrees of freedom ratio that was below the Marsh and Hocevar's (1985) criterion. The work smart scale reliabilities are marginal with composite reliability of .60, coefficient alpha of .59. The factor structure of work smart is similar to that of previous studies (e.g. Rapp et al., 2006)) as half of the factor loadings exceeded the recommended .50 cutoff. Given these loadings and reliabilities, a test was conducted to test for the possible effect of confounds in the work smart scale. Interfactor correlations average less than .24 indicating that on average less than six percent of the variance is shared among these constructs. Further, the comparison of work hard to work smart (i.e. comparing the average variance extracted with the variance shared) supports the discriminant validity. To gauge the discriminant validity between dependent variables, a comparison of the variance extracted to the variance shared between the sales orientation and customer orientation was conducted. Average variance extracted estimates were greater than the squared correlations between constructs. These results indicate these sets of concepts are distinct and discriminant validity supported.

Because both dependent and independent variables were assessed from the salesperson viewpoint, a common method bias analyses was conducted. A principal component factor analysis of all indicators extracted a five factor solution which explained over sixty percent of the total variation. These results suggest that variance may be reflected in the five variables of interest (i.e. work smart, work hard, sales orientation, customer orientation, and e-monitoring) rather than heavily influenced by the extraction of one common factor.

The two covariates were measured using pre-existing scales common to sales management. Salesperson experience level was measured using the number of years of experience industrial, firm and current position. Because each of these indicators is highly intercorrelated, separate MANCOVAs were

TABLE 3:
Dependent Variables: Scale Properties

Mean	Std. Dev.	Sample Items	# of Items	C.R.	Source(s)
		Work Hard			
13.98	3.32	I work long hours to meet my sales objectives. I work untiringly at selling a customer until I get an order.	3	.71	Sujan,Weitz and Kumar 1994
		Work Smart			
21.47	3.39	Every time I lose an order, I analyze what when wrong in great detail. I am always experimenting with new sales approaches.	4	.60	Sujan,Weitz and Kumar 1994
		Customer Orientation			
31.45	3.47	I try to bring a customer with a problem together with a product/service that helps him/her solve that problem. I try to figure out what a customer's needs are.	4	.82	Thomas, Soutar, and Ryan (2001)
		Sales Orientation			
9.39	4.33	I try to sell a customer all I can, even if I think it is more than a wise customer would buy. I try to sell as much as I can rather than satisfy a customer.	5	.76	Thomas, Soutar, and Ryan (2001)

conducted to verify each experience measure resulted in the same outcome. Organizational culture was defined as one which was supportive (Akaah, 1993; Wallach, 1983). The composite reliability for supportive culture was .86 and the indicator loadings (i.e. standardized betas) fell between .66 and .84.

Analyses

The MANOVA model exploring all four job outcomes indicates e-monitoring does have an effect. The overall F value of 3.77 has an associated probability level less than .0001. The Wilks lambda of .7291 implies that about 27% of the variance in salesperson reactions (i.e. working hard or smart and sales or customer orientation) is explained by the level of e-monitoring to which they are exposed. The univariate F statistics indicate much of this variance is attributable to the effect e-monitoring has on sales orientation (See Table 4).

While working hard does share some relationship with e-monitoring, results indicate this finding does not extend to working smart. Results of this analysis suggest salesperson willingness to work hard and e-monitoring levels is related (univariate F-statistic was 2.34 with associated probability level of .057). Further, the pattern of work harder tendencies is significantly higher when e-monitoring peaks. This difference is only significant when the highest levels of e-monitoring are compared to average or above average levels (See pairwise differences on Table 4). The pattern of averages across the five levels of e-monitoring and the finding that below average levels of e-monitoring actually tend to stimulate higher work harder motivation than average may suggest the relationship is not linear. Working hard does appear to be enhanced under high e-monitoring conditions – but may also be positively affected under less than average e-monitoring levels. Either high e-monitoring or lower levels of e-monitoring may result in building a salesperson's willingness to work hard. The first hypothesized relationship was partially supported as working hard is significantly related to monitoring. The support is qualified as partial since results may imply a possible curvilinear relationship may exist (See Figure #2). The second hypothesis was not supported as none of the working smart averages differed among any of the monitoring levels (See Table 4, F-value of 1.13).

TABLE 4:
MANOVA Results

Overall **F 3.77** (p<.0001)
Wilks' lambda .7291 Pillai's Trace .2881 Roy's Greatest Root .2671

	Low E-monitor n=35	Below Avg E-monitor n=42	Average E-monitor n=41	Above Avg E-monitor n=41	High E-monitor n=30	Univariate F-value
Work Hard Avg (Std.Dev)	13.88 (2.89)	14.52 (3.44)	13.07 (3.31)	13.51 (2.98)	**15.20** (3.75)	2.34 (p=.057)
Work Smart Avg	20.94 (3.48)	21.52 (3.82)	21.21 (3.16)	21.31 (3.53)	22.60 (2.62)	1.13 (p=.3423)
Sales Orientation Avg	6.71 (2.66)	7.88 (2.98)	9.63 (3.70)	**12.26** (4.90)	**10.38** (4.87)	11.79 **(p<.0001)**
Customer Orientation Avg	32.09 (2.52)	31.19 (4.06)	31.88 (1.95)	30.49 (4.98)	31.80 (2.38)	1.39 (p=.2401)

Bold indicates statistically significantly larger averages (i.e. pairwise comparisons indicate average was larger than at least two other levels of e-monitoring). See Figures 1 and 2.

A salesperson's orientation differs depending on the level of e-monitoring he or she is experiencing. This finding was demonstrated in the case of the third hypothesis (sales orientation) but not for the fourth hypothesis (customer orientation). Sales orientation is dramatically affected by e-monitoring. The univariate comparisons show that the majority of this variance in the overall MANOVA is attributable to sales orientation (i.e. the univariate F for sales orientation and e-monitoring is 11.79. Of ten possible pairwise comparisons, eight are significant and seven of these are consistent with the positive relationship expected in the third hypothesis (See Table 4). When monitoring is either at the highest or above average level, sales orientation averages tends to be significantly more than if monitoring is low. See Figure 3. Results here do support the notion that e-monitoring will increase salesperson's sales orientation and may suggest there is a threshold effect to this positive relationship.

E-monitoring does not appear to have an effect on salesperson customer orientation as the univariate F for this relationship was 1.39 (p= .2401). Thus the fourth hypothesis was not supported. Contrary to expectations, there was no evidence provided in these analyses to suggest electronic performance monitoring harms customer orientation.

The MANCOVA results indicate the pattern of conclusions does not change with salesperson experience level or supportive organizational culture. The separate MANCOVAs (three separate MANCOVA's –one for each form of experience (i.e. adjusting mean levels for the number of years the respondent had worked in sales in this industry, had worked for this firm in any capacity and had worked in his or her current sales position with the current firm)) controlling for experience level did not differ from those of the MANOVA. Results here mirror the significance levels reported without covariates – suggesting the effects of monitoring on this set of variables holds true even when experience level is controlled. Similarly supportive organizational culture did not reverse the significance levels of the MANOVA.

Conclusions and Managerial Implications

This research effort contributes to the growing area of the use of technology in sales by offering a focused look at managerial monitoring. Findings suggest an intriguing pattern of positive, but not negative effects. The

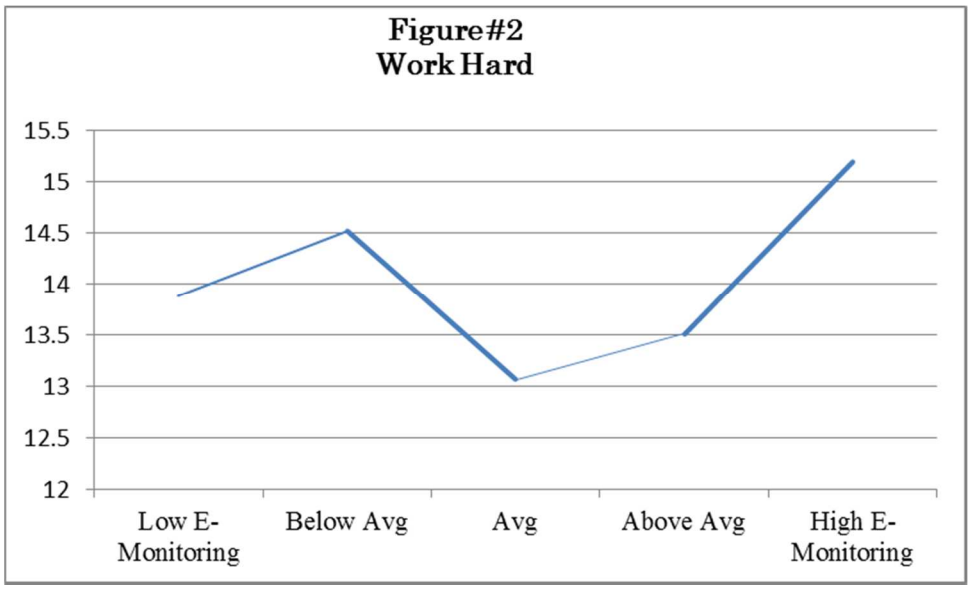


Figure: Wider lines indicate significant pairwise differences.

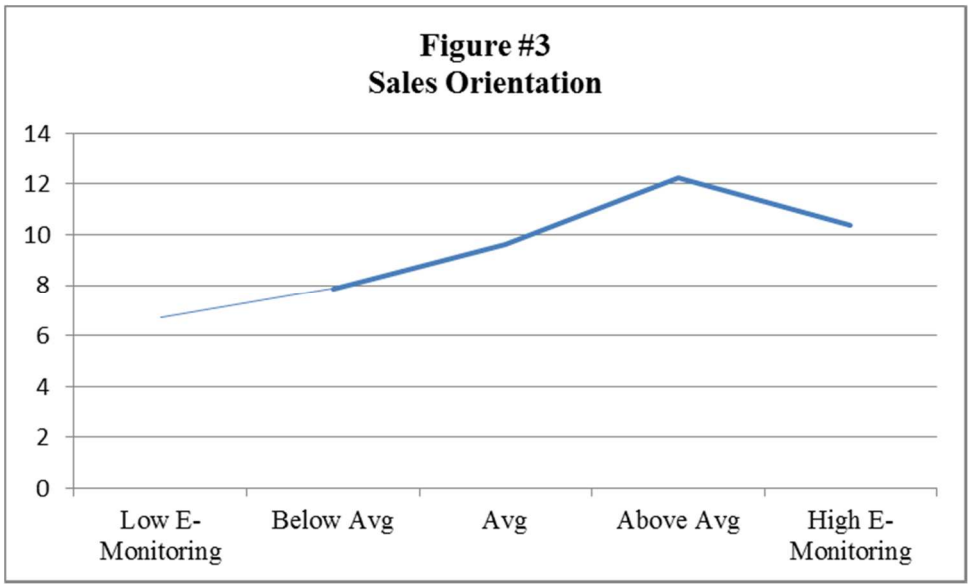


Figure: Wider lines indicate significant pairwise differences.

pattern of significant relationships here (i.e. significant relationships between managerial monitoring and two outcomes: sales orientation and working hard) suggests monitoring has the effect of turning attention to issues important to the sales firm (such as closing the sale or making numerous sales calls). This pattern is consistent with the pattern of correlations reported in previously published works. Specifically, the studies conducted by Baldauf, Cravens, and Grant (2002) and Onyemah and Anderson (2009) indicate monitoring is more likely to be correlated with variables that relate to the internal issues of the sales firm (e.g. salesperson's acceptance of manager control) than with eventual customer satisfaction. Moreover, by focusing on monitoring, the results reported here go beyond reporting

bivariate correlations of previously published studies. The analyses conducted in this research effort suggest some nuances to these shared positive relationships. A salesperson's tendency to exert more effort in the form of working hard may be enhanced with certain levels of monitoring.

Monitoring has a strong (and possible threshold) effect on sales orientation. Monitoring in this digital age may influence salespeople to exert higher levels of effort and adopt an end-result sales orientation. Sales managers today, for example, can track the progress from submitting proposals to gaining customer commitments in real time. The immediacy of monitoring sales outcomes without having to rely on salesperson self-reported progress may be motivating the field salesperson to increase his or her closing rate. Using the sales information system to monitor field salespeople will encourage the development of internal, company required goals such as those consistent with a sales orientation. Sales managers who are concerned with providing clear guidelines to autonomous field salespeople can use monitoring to increase field salesperson attention on internal goals.

Additionally this study adds to the growing body of literature that recognizes the unique effect of technology on managerial capabilities (Onyemah, Swain, & Hanna, 2010; DelVecchio, Deeter-Schmelz, &Anselmi, 2013). Monitoring performed by the field sales manager was framed around the use of the information system tools used by each of the participating firms in this study. The technologically enhanced forms of monitoring have an effect on sales orientation and working hard. Contrary to self-determination theories, these effects may not be entirely adverse (Deci, Connell, & Ryan, 1989). Consistent with the electronic performance monitoring (EPM) studies, this form of monitoring may encourage the pursuit of immediate or short term quantifiable outcomes (such as working hard to make more calls per day, or to gain closure and generate sales) (Stanton & Julian, 2002). The findings concerning sales orientation are dramatic (as the overall tests for significance were largely driven by the impact of monitoring on sales orientation).

Since a salesperson needs both sales and customer orientation to succeed (Franke & Park, 2006), monitoring carries managerial implications. Results here indicate the form of monitoring studied can affect sales but not customer orientation. Managers may be cautioned on just how their sales information system is being used or perceived to be used. Field salespeople are reacting to the ability of technologically enhanced monitoring to track closing the sale and showing revenue gains. If this effect of monitoring on sales orientation is combined with a previously low customer orientation, then monitoring may be serving to exacerbate an imbalance. Under these conditions (i.e. sales orientation outweighing customer orientation), the customer oriented criteria underwriting the monitoring system may need to be made more transparent. Increasing transparency may involve notifying salespeople of all criteria (both sales-outcome as well as customer-interaction criteria) being monitored.

The pattern of pairwise differences suggests working hard will be enhanced at either high or below average levels of monitoring (and similarly low at both average and above average levels). Since working hard tends shares a positive relationship with customer service levels (Rapp et al., 2006), sales managers should be aware that lower levels of monitoring may not be helpful. Sales managers who are concerned about their subordinate's motivation to work hard may want to examine their monitoring levels. Monitoring may signal to the salesperson a level of managerial concern, may provide accurate and useful data to help stimulate this form of effort. It is only when monitoring is above or below average that the salesperson is motivated to work harder. Salespeople in this sample were *either* more motivated to work hard when they believe they are not subjected to the scrutiny of managerial monitoring *or* when they believe the manager is paying close attention. Characteristics of the salesperson such as need for structure may explain these results as a high need for structure person would perceive monitoring as providing guidelines and clarity. A salesperson with a low need for structure may see this level of managerial monitoring as restrictive. In addition to a need for structure, salespeople in this sample may have reacted

differently to these levels of monitoring based on their internal locus of control. Those salespeople with a high (low) internal locus of control see themselves as more (less) in control and more (less) likely to perceive the purpose behind managerial monitoring as serving an informational purpose rather than controlling purpose (Shalley & Perry-Smith, 2001).

Sales orientation, however, is likely to be highest when monitoring levels are above average. Because salespeople do tend to be sales oriented (even when control systems focus on behavioral inputs), the findings here suggest this may be because of the monitoring levels (Johnson & Bharadwaj, 2005). When monitoring levels are above average, employees are more likely to be aware of EPM systems (Allen et al., 2007; Sewell & Barker, 2006). It may be this awareness of being watched that stimulates the need to show those revenue results and thus be sales oriented. Beyond this level (i.e. above average), however, sales orientation did not significantly increase which suggests a threshold effect. Sales managers are unlikely to enjoy incremental increases beyond some 'above average' level of monitoring. Thus the findings strongly indicate that a salesperson's sales orientation is highly reactive to managerial monitoring and managers seeking to stimulate this type of orientation should find approaching above average levels of monitoring would be effective. However, the gains in sales orientation may peak and not grow beyond this level of monitoring (See Figure 3). High levels of monitoring are not conducive to improvements in sales orientation beyond this point.

Contrary to expectations managerial monitoring shared no significant relationship with a salesperson's motivation to work smart or to be customer oriented. Both hypotheses, which anticipated a negative result of monitoring, were unsupported. The findings here indicate one but not both forms of motivation (i.e. working hard) and one but not both forms of orientation (i.e. sales orientation) are influenced by the level of managerial monitoring. This pattern is intriguing but certainly not conclusive. The two hypotheses, which expected a negative effect of EPM, were the two unsupported. At the very least, this lack of significance may cast a questionable light on the frequent speculation that the ability of field sales managers to monitor via SFA or CRM systems is a deterrent (Robinson, Marshall, & Stamps, 2005; Speier & Venkatesh, 2002; Sundaram et al., 2007). Perhaps managerial use of information technology to monitor their sales force carries more data, more objective indicators, more powerful analyses, and thus may be seen as more accurate and unbiased than traditional methods of monitoring. In their large scale survey, Onyemah and Anderson (2009) found managerial monitoring was significantly correlated with transparency of evaluative criteria. It may be this transparency which actually helps rather than harms outcomes (Lount & Wilk, 2014). This ability of electronic performance monitoring may support and enhance customer-interactions or customer service level (Sarpong & Rees, 2014). Monitoring may act as a clarification tool rather than an oppressive one.

Alternatively the lack of significance in these two hypotheses may be attributable to substantial heterogeneity in the sample of participating manufacturers. While this sample provided a rigorous test of the hypotheses, it may have been the sample's heterogeneity of selling situations that obscured the effect of monitoring. Respondents in this study were employed with a wide array of manufacturing firms (e.g. such as capital goods such as blast furnaces, to replacement parts such as pipe fittings). The complexity surrounding this array of manufactured goods may act as a contextual factor. Specifically EPM studies have identified task complexity as a moderator of the manager monitoring-subordinate outcome relationship (Mallo, Nordstrom, Martels, & Traxler, 2007). As the task becomes more complex, the need for more in-depth planning, strategic thinking and reaction to customer needs increases. These requirements are not impervious to managerial input – but would be better served by support and coaching rather than remote monitoring using technological tools. In short, one possibility is to test the expectation that high (low) monitoring will have a pronounced (moderate) negative effect when the selling task is highly (not) complex. While beyond the scope of the research effort reported here, the impact of sales task complexity may be worthy of future research.

Limitations and Future Research

Future research could explore the impact of task complexity using the conceptual framework of social facilitation theory. Since IT tools allow field sales managers to keep an even closer watch on sales activities, monitoring is continual rather than episodic. Salespeople aware of this ability then are also aware their managers can observe each step of the sales call. Social facilitation theory would claim this visibility should affect productivity depending, in part, on the complexity of the task. As the sales task becomes more information intensive, complex and service oriented, sales managers will need to understand the possible effect of task complexity. Field sales managers monitoring highly complex sales may find the more competent salespeople respond favorably to high levels of monitoring but the less capable do not.

While this study developed and pretested a new scale (i.e. field sales managers' use of EPM), not all of the previously validated scales performed as expected. Specifically a note of caution concerning the findings of working smart is in order. The lack of significance concerning working smart may be attributable to the measurement issues surrounding this variable. Past research has similarly found that not all items in the working smart scale are tapping one concept (Rapp et al., 2006). Working smart in this, the digital age, may place more emphasis on the use of analytical tools (such as the creative use of those tools to self-manage). While working hard is reflected in the frequency and routinized use of technology, our current scales measuring working smart may fall short of tapping the creative and sophisticated use of analytical tools. Additional research may be needed to improve the unidimensionality of the working smart scale – and perhaps to more clearly tap the dimension of conducting thorough analytics.

While this sample of heterogeneous industrial salespeople provided a rigorous test of hypotheses, this sample is less suited to establishing causal relationships. While we typically think about the effect the manager's behaviors will have on the sales subordinates, the reverse effect may be feasible. For example, the relationship between working hard and monitoring may be reversed. Managers may monitor more when they are concerned about performance. If the salesperson's efforts at working hard are escalating and not productive then managers may monitor more. If the salesperson's efforts at working hard are productive, then monitoring may be deemed unnecessary. In controlled experiments, Alge, Ballinger, and Green (2004) found leaders tended to increase their monitoring of subordinates over time when the leader expected low performance from the subordinate. Repeated measures and longitudinal designs may reveal these patterns unavailable in a heterogeneous cross sectional study.

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APPENDIX A:
Comparison of Respondent to NonRespondent Companies

	Proportion of Companies Respondents[a]	Proportion of Companies: Nonrespondents[b]	Significance Tests
Number of Employees			
20 – 49	39.5	56.5	**Chi Square=.20**
50 – 99	31.5	30.4	**d.f.=4**
100 – 249	21.1	8.8	**p= .99**
250 – 499	5.2	0.0	
500 – 999	2.6	4.3	
Annual Sales			
$2.5 – 5.0 million	18.5	26.1	
$5 – 10 million	10.5	39.0	**Chi Square=1.12**
$10 – 20 million	26.3	26.1	**d.f.=6**
$20 – 50 million	31.6	0.0	**p= .98**
$50 – 100 million	7.9	0.0	
$100 – 500 million	2.6	4.4	
$500 million – 1 billion	0.0	4.4	

Note: This comparison conducted for Sample 1 (n=101).
[a]38 Companies employing salespeople who completed surveys
[b]23 Companies employing salespeople who did not respond

Comparison of Respondents to Overall

	Percentage of Lexis-Nexis Dossier Database	Percentage of Respondents from American Business Directory Database[c]	Significance Tests
Annual Revenue			
$2.5 – 5 million	33.3	7.0	
$5 – 10 million	22.9	12.9	
$10 – 20 million	18.0	31.9	**Chi Square=.75**
$20 – 50 million	14.2	21.1	**d.f.=6**
$50 – 100 million	5.2	16.2	**p= .99**
$100 – 500 million	4.3	10.8	
$500 million – 1 billion	1.5	0.0	

Note: In both databases, manufacturers (SIC 2000and 3000) headquartered in Southeastern USA.
[c]Full scale sample, n=189.

APPENDIX B:
Comparison of Sales Information System Characteristics

Overall MANOVA F=1.91 (probability = .11), Wilks Lambda = .92					
Variable	**Definition**	**Method of Scoring[a]**	**Sample[b]**	**Mean**	**Std. Dev.**
Document Form	Degree to which the sales information system uses documents in paper versus electronic forms.	Scored low for manual system, e.g., paper based, and high for electronic, e.g., Web-based.	1 2	2.74 2.52	1.30 1.25
Directional Flow	Degree to which the computer network system allows many directional flows of information.	Scored low for network system restricted to input only, e.g., field sales providing input to headquarters, and high for a system allowing both input and access by many departments.	1 2	3.06 3.18	1.26 1.32
Connectivity	Degree of connectivity of the computer network system.	Scored low for mainframe dependent system and high scores for systems using LAN or Web to combine both personal and mainframe computing.	1 2	3.12 2.82	1.48 1.34
Wireless	Degree to which the personal computer communication system takes either wired or wireless forms.	Score low for wired and high for wireless.	1 2	2.54 2.61	1.01 1.00

[a]Values ranged from 1 – 5.
[b]Sample 1 n=101, Sample 2 n=189.