A New Look at Industrial Sales and its Requisite Competencies

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Although industrial sales is widely discussed in both practitioner and academic circles, no clear definition of "industrial" has been established. We present a definition of industrial sales that distinguishes it from other sales domains, and we draw from a panel of industrial sales executives and a random sample of industrial sales managers to generate and evaluate the importance of a comprehensive list of knowledge, skills, and value competencies that are required for success in industrial sales. Technical competencies, while important, were rated relatively less so than selling- and customer-related competencies. Among other recommendations, we implore industrial sales executives to incorporate a global mindset into their sales organization, and we challenge academics to extend personal selling beyond the business school to engineering, computer science, and other technical disciplines from where industrial salespeople often recruit.

Because salespeople from different firms and industries often face unique challenges, the requirements for a successful salesperson in these diverse settings vary considerably. Moncrief (1986) explains that "the diversity of selling tasks and responsibilities among firms and industries is one reason why many studies of salesperson attitudes, opinions, and behaviors have produced conflicting results" (p. 261, see also Churchill et al., 1985). Numerous studies have classified sales jobs into meaningful groups primarily by the activities they perform (e.g., Churchill et al., 1985, McMurray, 1961, Moncrief, 1988, Newton, 1973), and one such classification is that of industrial sales.

Several articles in the sales literature refer either to industrial selling, industrial sales forces, or industrial salespeople (e.g., Lamont, 1974, Moncrief, 1988, Wotruba, 1996). Despite the noted distinction of the term "industrial", its definition as it relates to selling is often missing, generalized or undifferentiated from other types of selling professions. According to Moncrief (1988), industrial sales has been "misrepresented, misunderstood, and mislabeled" (p. 161). In an effort to establish greater clarity and consistency for both sales research and practice, we offer a definition of industrial sales, and report the results of an empirical study to identify the requisite competencies for success in the industrial sales profession.

A Customer Application-Based Definition of Industrial Sales

Although the term "industrial sales" has not been clearly defined, several sources have defined "industrial marketing", under which the activity of industrial sales is presumably subsumed. Just as Rangan and Isaacson (1991) distinguish industrial marketing from other marketing domains based on the type of customer served and how the product is used, we define industrial sales by the customer and, more importantly, the customer's intended application of the product or service. We define industrial sales as *personal selling activities that facilitate the sale of products or services whose intended application is in the manufacturing process.*

This definition excludes consumer product sales, such as the sale of goods by manufacturers to wholesalers and retailers for the purpose of resale to consumers, and is a subset of activities described as "business-to-business" (b2b) sales. It excludes b2b sales activities where the primary application of the product being sold is for commercial or institutional use outside of

manufacturing. For example, the sale of a computer server to a bank would not be an industrial sale, but if the server were sold for use in operating a computer numerical controlled (CNC) milling machine in a production line, the sale would be industrial by our definition. Consistent with this distinction, many firms have established different product divisions and sales forces for commercial and industrial applications, where the industrial divisions focus primarily on manufacturing applications.

We argue that industrial sales is a distinctive sales profession because industrial products and services serve as inputs in the customer's manufacturing process and value chain. Thus, selling activities in this context present unique challenges and require a distinctive balance of competencies. In the next section we explore the meaning of the term "competency", and describe the conceptual approach that we employ in our empirical study to identify the necessary competencies for success in industrial sales.

Defining Competencies

There are many definitions of competence available, but no single definition has been widely accepted (Hoffmann, 1999). The definition that is most appropriate for the purpose of this study comes from Westera (2001): "From an operational perspective, competences seem to cover a broad range of higher-order skills and behaviors that represent the ability to cope with complex, unpredictable situations. This operational definition includes knowledge, skills, attitudes, metacognition and strategic thinking, and presupposes conscious and intentional decision making" (p.80).

Because competence covers such a broad conceptual spectrum, researchers have identified several sub-dimensions of the construct, including knowledge, skills, attitudes, abilities, and values (Fleisher, 2003, Stephenson and Weil, 1992, Westera, 2001). We use the structure proposed by Evers et al. (1998) that subdivides competencies into knowledge, skills, and values (KSV) because the KSV structure reflects the cognitive, affective, and psychomotor domains often used to develop educational objectives. Knowledge competencies represent the cognitive domain, values cover the affective dimension, and skills the psychomotor. Knowledge refers to the ability to understand how pieces of information (concepts, principles, facts) can be used with context, to solve problems that are new but are similar to previous actions. Skills refer to the ability to demonstrate a system and sequence of behaviors that are functionally related to attaining a performance goal, and must result in something observable (Boyatzis, 1982). Values refer to one's feelings, attitudes, opinions, standards, and beliefs. It is an abstract, generalized principle to which members of a group have a strong emotional commitment. As Garavan and McGuire (2001, p. 152) explain, "an individual's work performance is influenced by professional, managerial, people, and mental components, but also by work values and attitudes."

In order to identify the competencies necessary to succeed in industrial sales, we conducted an empirical study to assess practitioner perceptions of requisite competencies in industrial sales.

Methodology

Our study consisted of three rounds of data collection. The first two rounds employed an executive panel, and the third round utilized a random sample of industrial sales managers from a diverse range of industries.

Executive Panel

In the first round of our study, a group of senior sales executives was asked to self-generate a list of knowledge, skills, and values that determine success in industrial sales. These upper level senior sales executives were in corporate positions that were directly relevant to the functions of industrial sales personnel.

For this study, criteria that defined eligibility for involvement in the panel included:

1. Upper-level executives of mid to large size manufacturing organizations that contain an industrial sales component.

2. Employed for at least five years with their current organization.

3. Assurance from the potential member that sufficient time would be dedicated to the study.

The researchers drew upon a convenience sample of direct and indirect personal and professional contacts to compile a group of potential executive panelists. These upper-level executives represented firms from a variety of industries, including, but not limited to, aerospace, industrial electronic systems, plumbing products, and semiconductors, and ranged in size from $4 million to $130 billion in annual revenues. A pool of approximately 30 potential panelists was established. Each potential panelist was contacted by e-mail and presented with the specifics of the research study. The final panel of executives who agreed to participate in the study consisted of 25 members.

Round 1: Executive-Generated Industrial Sales Competencies

In round 1 each respondent in the panel of executives was asked to list at least five knowledge, skills, and values competencies that determine success in industrial sales. Respondents provided responses in their own words in an open-ended text field in an Internet survey.

There were two primary reasons why we allowed the executive panel to generate their own list of competencies, rather than providing a pre-developed list of competencies based on prior research. First, this *tabula rasa* approach captures the unbiased perspective of experienced practitioners. Second, the competencies of successful salespeople that have been developed to-date in the academic literature have not been developed with a specific focus on industrial sales.

After an initial return rate of 54%, a follow up e-mail was sent to the executive panelists requesting completion of the questionnaire. A few weeks later, there was a 100% return rate. 285 competencies in the knowledge, skill and value categories were generated.

Round 2: Follow-Up Importance Ratings of Competencies by Executive Panel

The list of competencies generated in round 1 was independently analyzed by two researchers to eliminate duplicate items. Each researcher organized the list of items by conceptual similarity, and then noted where two or more items could be subsumed under a single descriptor. Then the researchers compared their analysis, discussed discrepancies, and resolved any differences through discussion. An item was only removed if another item clearly had a similar meaning. Through this process, the list of 285 competencies created by the executive panel was reduced to 169 – 66 knowledge competencies, 75 skills, and 28 values.

A questionnaire listing each of the 169 competencies was developed, requiring respondents to rate both the current and future importance of each competency on a scale with the headings: "extremely unimportant", "unimportant", "moderately important", "important", and "extremely important". We included both current and future importance to capture any shifting trends in the requisite expertise of contemporary industrial salespeople. The URL for the Web survey was sent via email to the executive panel. Panelists who did not complete the survey within the initial two weeks were subsequently contacted with reminders. Within one month all of the executives had completed the questionnaire.

Round 3: Competency Ratings by Random Sample of Sales Managers

After collecting competency importance rating data from the executive panel, we distributed a similar survey to a random sample of industrial sales managers. The only difference in the survey is that respondents were required only to rate the

current importance of each of the 169 competencies. We eliminated the current vs. future comparison to reduce respondent fatigue and improve response rates. The URL for the Web survey was submitted via email to 250 randomly selected sales managers from companies classified by the North American Industry Classification System (NAICS), numbers 31-33 (manufacturing) and another 250 salespeople were randomly selected from NAICS codes 44-45 (retail trade), as listed in the 2001 edition of *Ward's Business Directory of U.S. Private and Public Companies*. We chose these NAICS codes to capture a broad selection of sales professions, industries, and companies. Of the 500 sales managers who were contacted, 82 responded (16.4% response rate). The sales managers were classified based on their answer to the question "How would you classify your current sales position?", with the following response categories.

- Consumer sales: selling products to consumers for their consumption, or to resellers for their sale to consumers.
- Industrial sales: Selling products that have an intended application in manufacturing, assembly, and material processing functions.
- Commercial sales: Selling products to other businesses for applications that are not industrial.
- Institutional sales: Selling products to institutions for their use in delivering services to their constituents.
- Other: (please specify)

Among the respondents, 31 classified their current position as industrial, 17 consumer, 0 institutional, 22 commercial, and 12 "other". The analysis we report in this paper includes only those managers who classified themselves within industrial sales.

Analysis and Results

Interpreting the importance ratings of all 169 competency items posed a difficult challenge. Because of the small samples (25 respondents in the executive panel and 31 industrial sales managers) compared to the large number of competencies, factor analysis or other statistical data reduction methods were not appropriate. To aid the interpretative process, the researchers grouped the knowledge and skill competencies by their conceptual similarity. The knowledge competencies were grouped into nine general conceptual domains. These include knowledge about:

- Business concepts
- Competitors
- Customers
- The salesperson's employer
- Financial concepts
- Industry
- Product
- Selling
- Technological

Table 1 provides the average importance ratings of the individual knowledge competencies and the broader conceptual domains reported by the executive panel and the sales managers.

Average importance ratings highlighted in red (blue) were rated by the executive panel significantly more (less) important for the future compared to their current importance, providing an indication of longitudinal variation.

Sales manager ratings that are italicized in the table are significantly different than the average current importance ratings of the executive panel. In a further effort to assess the relative consistency of the importance ratings between the executive panel and sales managers, we sorted the competencies by the average importance rating they received from the executive panel in descending order and compared their relative rankings between the

Table 1: Importance Ratings of Knowledge Competencies

		Executive Panel		Sales Managers
Domain	**Knowledge Competency**	**Future**	**Current**	
Customer	Influence of Contacts	3.88	4.50	4.74
Customer	Decision Making Process	3.88	4.42	4.87
Customer	Contact Information	3.88	4.33	4.65
Customer	Unique Requirements	3.79	4.29	4.35
Customer	Business and Industry	3.88	4.25	4.26
Customer	Financials	3.92	4.25	4.00
	Average Customer	3.87	4.34	4.48
Selling	Sales Process	4.46	4.46	4.52
Selling	Salesmanship	4.33	4.42	4.65
Selling	Selling Techniques	4.21	4.38	*4.74*
Selling	Account Management	4.29	4.33	*4.77*
Selling*	Consultative Selling*	*4.50	*4.21	4.42
Selling*	Accurate Sales Forecasting*	*4.13	*3.96	4.10
Selling	Territory Management	3.33	3.63	*4.13*
	Avg. Selling	4.18	4.20	4.48
Competitors	Relative Strengths and Weaknesses	3.88	4.42	4.48
Competitors	Business Strategy	3.71	4.25	4.16
Competitors	Product Capabilities and Specifications	3.54	4.00	4.19
Competitors	Product History	3.25	3.79	3.55
	Avg. Competitors	3.60	4.12	4.10
Product	Strengths	4.13	4.71	4.42
Product	Application	3.96	4.58	4.55
Product	Weaknesses	3.92	4.42	*4.00*
Product	Quality Standards	3.63	4.13	4.32
Product	Design	3.42	4.04	4.39
Product	Technical Specifications	3.42	4.04	*4.55*
Product	Lifecycle	3.46	3.88	3.61
Product	History	2.96	3.50	3.61
Product	Material Properties	2.92	3.46	3.94
Product	Packaging	2.79	3.25	3.35
	Avg. Product	3.46	4.00	4.07
Industry	Market Structure	3.83	4.21	3.94
Industry	Trends	3.75	4.08	4.35
Industry	Codes and Standards	3.58	3.92	4.00
Industry	Traditions	2.71	3.29	3.45
	Avg. Industry	3.47	3.88	3.94
Employer	Quality Standards	3.67	4.13	4.52
Employer	Organizational Strategy	3.46	4.00	4.03
Employer**	Management Structure**	**3.29	**3.96	3.74
Employer	Available Resources	3.38	3.88	*4.58*
Employer**	Corporate Mission**	**2.88	**3.50	3.94
	Avg. Employer	3.29	3.86	4.16

Table 1: Importance Ratings of Knowledge Competencies Cont'd

		Executive Panel		Sales Managers
Financial	Financial Impact of Installation/Product Costs	4.58	4.58	*3.87*
Financial*	Cost/Benefit Analysis*	*4.67	*4.46	4.10
Financial	Net Income	4.13	4.04	*3.39*
Financial	Financial Forecasting	3.92	3.96	*3.29*
Financial	Corporate Budgeting	3.92	3.92	*3.35*
Financial	Sales Forecasting Methods	4.38	3.79	4.10
Financial*	Cash Flow*	*3.83	*3.50	3.74
Financial	Statistical Software	3.21	3.17	2.90
Financial	Depreciation	2.96	2.96	3.16
Financial	Statistics	2.92	2.96	2.94
Financial*	Tax Implications*	*3.13	*2.88	3.19
	Avg. Financial	3.79	3.66	3.46
Bus. Concepts	Profitability Drivers	4.50	4.38	4.29
Bus. Concepts	Basic Marketing Knowledge	4.42	4.29	4.23
Bus. Concepts*	E-Commerce*	*4.13	*3.75	3.39
Bus. Concepts	Organization Structure	3.75	3.67	3.45
Bus. Concepts*	Legal Aspects*	*3.67	*3.38	3.77
Bus. Concepts*	Logistics and Distribution*	*3.63	*3.29	3.55
Bus. Concepts	Purchasing	3.08	3.29	3.77
Bus. Concepts*	Enterprise Resource Planning*	*3.63	*3.25	3.19
Bus. Concepts	Inventory Control	3.17	2.83	3.42
	Avg. Bus. Concepts	3.78	3.57	3.67
Technological	Emerging Technologies	3.88	4.25	4.10
Technological	Basic Computer	3.67	4.13	4.32
Technological	Quality Control	4.08	4.00	3.68
Technological	Basic Engineering Principles	3.17	3.71	4.13
Technological	Materials	3.33	3.42	3.68
Technological	Manufacturing Processes	3.33	3.33	*4.00*
Technological	Simulation	3.38	3.29	2.90
Technological	Basic Electricity	3.04	3.17	*3.81*
Technological	Facilities and Facilities Management	2.54	3.13	2.71
Technological	Internal Process Control Limits	2.92	2.92	3.00
	Avg. Technological	3.33	3.54	3.63

* (**) = future importance significantly greater (less) than current importance (paired-sample 2-tailed t-test, $p<.05$).

two respondent groups. The list of competencies was truncated to include only the top-ranked items across both groups. Table 2 compares the importance rankings obtained in this analysis.

12 of the 20 knowledge competencies that received the highest importance ratings by the executive panel were also rated among the top 20 by the sales managers.

The skills competencies were organized around six conceptual domains, including:

- Analysis
- Discovery
- Interpersonal
- Managerial
- Problem Solving
- Technical

Table 3 provides the average importance ratings of each skill competency and broader conceptual domain for the executive panel and the sales managers.

As in the case of the knowledge competencies, we gauged the relative consistency of importance ratings between the executive panel and the sales managers by comparing the average importance ratings via t-tests, and ranking the skill competencies in descending order of their average importance ratings as judged by the executive panel, and comparing those rankings to the ranking of average importance ratings by the sales managers.

Table 4 compares those rankings.12 of the 20 skill competencies that received the highest importance ratings by the executive panel were also rated among the top 20 by the sales managers.

The 28 value competencies represent a manageable collection of diverse constructs for individual interpretation, so we did not organize them within higher-level conceptual domains. Similar to our analysis of the knowledge and skills competency ratings, we compare the average importance ratings between the executive panel and the sales managers via t-tests, and we compare their relative rankings across the two groups.

Table 2: Most Important Knowledge Competencies as Rated by Executive Panel and Sales Managers

Domain	Knowledge Competency	Rank among executive panel*	Rank among sales managers
Product	Strengths	1	9
Financial	Financial Impact of Installation/Product Costs	2	23
Product	Application	2	6
Customer	Influence of Contacts	3	3
Financial	Cost/Benefit Analysis	4	19
Selling	Sales Process	4	7
Competitors	Relative Strengths and Weaknesses	5	8
Customer	Decision Making Process	5	1
Product	Weaknesses	5	21
Selling	Salesmanship	5	4
Bus. Concepts	Profitability Drivers	6	13
Selling	Selling Techniques	6	3
Customer	Contact Information	8	4
Selling	Account Management	8	2
Selling	Consultative Selling	11	9
Employer	Quality Standards	12	7
Product	Technical Specification	14	6
Product	Design	14	10
Employer	Available Resources	18	5

*By descending average of importance ratings

Table 3: Importance Ratings of Skill Competencies

		Executive Panel		Sales Managers
Domain	**Skill Competency**	**Future**	**Current**	
Discovery	Uncover Customer Needs	4.42	4.38	4.65
Discovery	Search Out Potential Customers	4.00	3.92	*4.77*
	Average Discovery	4.21	4.15	4.71
Interpersonal	Listening	4.38	4.25	*4.94*
Interpersonal	Articulation	4.25	4.13	4.65
Interpersonal	Multiple Priority Management	4.00	4.08	4.29
Interpersonal	Audience Awareness	4.13	4.04	4.26
Interpersonal*	Open and Honest Communication*	*4.21	*4.00	*4.68*
Interpersonal	Relational	4.04	3.96	4.23
Interpersonal	Verbal Communication (Presentation)	3.88	3.96	*4.74*
Interpersonal	Networking*	*4.08	*3.92	*4.35
Interpersonal	Conflict Resolution	3.79	3.83	4.29
Interpersonal	Empathy	3.92	3.83	4.03
Interpersonal	Humor	3.88	3.83	4.03
Interpersonal	Probing	3.92	3.83	4.42
Interpersonal	Translate Techno-babble	3.50	3.83	4.19
Interpersonal	Persuasiveness	3.96	3.83	*4.52*
Interpersonal*	Constructive Feedback*	*3.92	*3.75	4.19
Interpersonal	Written Communication (Technical)	3.88	3.75	*4.61*
Interpersonal*	Teamwork/Building*	*3.92	*3.71	3.94
Interpersonal	Conversational	4.08	3.67	4.32
Interpersonal	Character Building	3.63	3.54	3.84
Interpersonal	Cultural Awareness	3.46	3.46	3.71
	Avg. Interpersonal	3.94	3.86	4.31
Problem Solving	Closing the Deal	4.25	4.21	4.61
Problem Solving	Customer Awareness (Understanding)	4.00	4.17	4.55
Problem Solving	Generate Solutions	4.21	4.13	4.48
Problem Solving	Conceptualization	4.17	4.08	4.35
Problem Solving	Need Assessment	4.04	4.04	4.26
Problem Solving	Negotiation	4.04	4.04	4.61
Problem Solving	Self-Directing	4.13	4.00	*4.84*
Problem Solving*	Critical Thinking*	*4.13	*3.96	4.52
Problem Solving*	Persistence*	*4.13	*3.92	*4.74*
Problem Solving	Prioritizing	4.04	3.92	4.61
Problem Solving	Creativity	3.96	3.83	4.32
Problem Solving	Crisis Management	3.88	3.75	4.13
Problem Solving	Follow-Up Techniques	3.88	3.75	*4.55*
Problem Solving	Imparting Vision	3.71	3.71	4.00
Problem Solving	Shared Vision	3.63	3.58	4.00
Problem Solving	Dealing with Skepticism	3.63	3.54	4.29
Problem Solving	Monitoring	3.46	3.46	4.00
Problem Solving	Technical Research	3.42	3.38	3.77
Problem Solving	Handling Indifference	3.75	3.29	*4.26*
	Avg. Problem Solving	3.92	3.83	4.36

Table 3: Importance Ratings of Skill Competencies Cont'd

		Executive Panel		Sales Managers
Managerial	Taking Ownership	4.17	4.08	4.42
Managerial*	Leadership Skills*	*4.17	*4.00	4.39
Managerial	Time Management	3.71	3.96	*4.68*
Managerial*	Employee Utilization*	*4.17	*3.92	*3.71*
Managerial	Motivating	4.00	3.88	4.26
Managerial	Planning	4.00	3.88	4.32
Managerial	Organizational Skills	3.96	3.83	3.97
Managerial	Team Building Skills	3.88	3.83	3.97
Managerial	Stress Management	3.83	3.75	3.81
Managerial	Accountability	4.04	3.71	4.65
Managerial	Delegation	3.75	3.67	3.90
Managerial*	Mentoring*	*3.88	*3.67	4.00
Managerial	Project Management	3.63	3.54	*4.32*
Managerial*	Resource Allocation*	*3.88	*3.54	3.84
Managerial	Budgeting	3.50	3.50	3.81
	Avg. Managerial	3.90	3.78	4.14
Analysis	Cost/Benefit (ROI)	4.17	3.96	3.97
Analysis	Value Analysis	3.88	3.83	4.03
Analysis	Forecasting	3.46	3.67	3.77
Analysis	Quantitative	3.58	3.54	3.58
Analysis	Product Category Fit	3.50	3.42	*4.13*
Analysis	SWOT	3.46	3.42	*3.13*
Analysis	Qualitative	3.38	3.38	3.68
Analysis	Benchmarking	3.42	3.29	3.55
Analysis	Cash Flows	3.04	2.96	3.39
	Avg. Analysis	3.54	3.50	3.69
Technical**	Vocabulary (Industry Jargon)**	**3.46	**3.96	4.65
Technical	General Computer Literacy	3.46	3.50	*4.61*
Technical	Technology Implementation	3.33	3.33	3.94
Technical	Quality Inspection	3.13	3.13	3.32
Technical	Flowcharts (control charting)	2.75	2.75	2.94
Technical	Mechanical Troubleshooting	2.67	2.71	*3.61*
Technical	Materials Identification	2.67	2.67	*3.55*
Technical	Computer Aided Design and Drafting	2.63	2.58	2.77
Technical	Product Installation	2.50	2.46	*3.61*
Technical	Processing Equipment Recognition	2.38	2.38	*3.52*
	Avg. Technical	2.90	2.95	3.65

17 of the 20 value competencies that received the highest importance ratings by the executive panel were also rated among the top 20 by the sales managers.

Discussion

There are six primary insights that we believe are noteworthy from the analysis. First, there is a broad diversity of competencies that both the executive panel and sales managers perceived as important for a successful industrial salesperson. The results indicate that a successful industrial salesperson is a well-rounded individual with competencies ranging from interpersonal to technical skills and knowledge about customers, competitors, and selling, just to name a few.

Table 4: Most Important Skill Competencies as Rated by Executive Panel and Sales Managers

Domain	Skill Competency	Rank among executive	Rank among sales managers
Discovery	Uncover Customer Needs	1	6
Interpersonal	Listening	2	1
Problem Solving	Closing the Deal	3	7
Philosophy	Customer Awareness	4	8
Interpersonal	Articulation	5	6
Problem Solving	Generate Solutions	5	10
Managerial	Taking Ownership	6	11
Problem Solving	Conceptualization	6	13
Interpersonal	Multiple Priority Management	6	15
Problem Solving	Negotiation	7	7
Interpersonal	Audience Awareness	7	16
Problem Solving	Need Assessment	7	16
Problem Solving	Self Directing	8	2
Interpersonal	Open and honest communication	8	5
Managerial	Leadership Skills	8	12
Interpersonal	Verbal Communication	9	4
Managerial	Time Management	9	5
Technical	Vocabulary (Industry Jargon)	9	6
Problem Solving	Critical Thinking	9	9
Interpersonal	Relational	9	17
Analysis	Cost/Benefit (ROI)	9	22
Discovery	Search out potential customers	10	3
Problem Solving	Persistence	10	4
Problem Solving	Prioritizing	10	7
Interpersonal	Networking	10	13
Managerial	Employee Utilization	10	28
Interpersonal	Written Communication	13	7
Managerial	Accountability	14	6
Technical	General Computer Literacy	18	7

Second, we were surprised that the executive panel did not identify any competencies specifically relating to a global business environment or the challenges of interacting across cultural boundaries. Given the global propagation of manufacturing activities, we were expecting our panel to suggest that today's or tomorrow's successful industrial salesperson should have a keen global and cultural awareness and sensitivity.

Third, even though this study focused specifically on industrial sales, and even though we primed participants to consider personal selling in the context of a manufacturing customer, surprisingly few of the competencies identified by the executive panel are directly related to manufacturing.

Fourth, the competencies that our executive panel believed to be more important for the future than in the present were related primarily to selling knowledge, financial knowledge, business concept knowledge, interpersonal skills, problem solving skills, managerial skills, and optimism. Interestingly, none of these

competencies are distinctive to industrial sales compared to other selling professions.

Fifth, there was considerable consistency between those competencies rated most important by the executive panel and the sales managers. The differences in perceived importance between the two respondent groups are noteworthy, however. Within the knowledge competencies, sales managers placed more importance on certain selling- and technological-related competencies than the executive panel, and the executives placed more importance on several financial-related knowledge competencies than the sales managers. Within the skill competencies, sales managers placed more importance on certain interpersonal-, problem solving-, managerial-, analytical-, and technical-related competencies than the executive panel, and there were very few skill competencies deemed more important by the executives compared to the managers (employee utilization, SWOT analysis). Within the value competencies, only assertiveness received a significantly different average importance rating across the two respondent groups.

Finally, even though our study focused specifically on industrial sales, which is arguably a technical sales discipline, technological knowledge and technical skills both received relatively low evaluations of importance by both participant groups.

Managerial Implications

Drawing upon the findings from this research, we propose several actionable recommendations

Table 5: Importance Ratings of Value Competencies

	Executive Panel		Sales Managers
Value Competency	**Future**	**Current**	
Ethical Behavior (honesty)	4.63	4.67	4.77
Integrity	4.67	4.67	4.81
Credibility (authentic)	4.71	4.58	4.61
Listening	4.54	4.54	4.94
Professionalism	4.54	4.54	4.87
Responsible	4.50	4.50	4.61
Self confidence	4.50	4.50	4.52
Trustworthiness	4.58	4.50	4.71
Achievement-orientation (competitive)	4.54	4.46	4.42
Ambitious (initiative)	4.46	4.46	4.52
Common sense	4.46	4.46	4.55
Adaptable to change	4.54	4.42	4.52
Assertive	4.29	4.29	*4.06*
Genuine	3.96	4.29	4.52
Customer Loyalty	4.29	4.25	4.29
Determination	4.25	4.25	4.58
Optimistic*	*4.38	*4.17	*4.32
Patience	4.13	4.17	4.55
Friendly	4.04	4.08	4.55
Future vision	4.08	4.08	3.94
Charismatic	3.92	4.00	4.16
Comfortable in ambiguity	4.00	3.92	3.90
Unselfishness	3.92	3.92	3.90
Humility	4.04	3.88	4.06
Team Player	4.21	3.88	4.23
Curiosity	3.75	3.83	3.97
Company Loyalty (profitability)	3.67	3.71	3.90
Compassionate	3.71	3.67	3.94

Table 5: Most Important Value Competencies as Rated by Executive Panel and Sales Managers

Value Competency	Executive Rank	Sales Manager Rank
Ethical Behavior (honesty)	1	4
Integrity	1	3
Credibility (authentic)	2	6
Listening	3	1
Professionalism	3	2
Trustworthiness	4	5
Responsible	4	6
Self confidence	4	9
Common sense	5	8
Ambitious	5	9
Achievement-orientation	5	10
Adaptable to change	6	9
Genuine	7	9
Assertive	7	15
Determination	8	7
Customer loyalty	8	12
Patience	9	8
Optimistic	9	11
Friendly	10	8
Future vision	10	17

for executives, managers, and salespeople within the industrial sales profession.

First, sales managers and human resource executives need to evaluate sales candidates not only on the basis of their conceptual knowledge, but also on their skills and professional and personal values. Successful industrial salespeople are not one- or even two-dimensional; they are three-dimensional personnel whose knowledge, abilities, and values deliver value for customers and profitability for their employer.

Second, to ensure the global and cultural competencies of tomorrow's industrial salesforce, sales managers must recognize the rapidly shifting landscape of manufacturing and adapt through advanced training and international sales exposure. We find it alarming that the executive panel in our study did not identify any globally-oriented competencies as critical for selling success.

Third, sales managers and executives must recognize differences in their perceptions of the critical competencies for industrial sales success. In our study, the executive panel and sales managers reported different levels of importance across several domains. While sales managers placed more importance on selling and technological knowledge, the executive panel placed more importance on financial knowledge. Sales managers also placed more importance on skills than their executive counterparts. These differences seem to reflect a tendency for executives to emphasize top-line financial performance while sales managers are more concerned with the day-to-day competencies that are necessary to address customer needs and implement a value-creating solution. Executives, sales managers, and salespeople need to effectively communicate their own perspective while taking the time to understand others.

Fourth, we challenge our own profession of academics to incorporate sales into disciplines outside the marketing discipline. Although it is necessary in some industries and for some product categories that industrial salespeople hold engineering, computer science, and other technical degrees, selling skills and customer- and selling-related knowledge and skills are of paramount importance.

In our own research and teaching in the industrial sales field, we have learned that the most critical determinant of success in industrial sales is an appreciation and understanding of the challenges faced by today's manufacturers. Thus, we feel that the most important contribution of our research is establishing a definition of industrial sales that focuses on the customer's intended application of a solution within a manufacturing process. A solution that solves a manufacturing challenge has value, and an effective salesperson is one who can both develop a workable solution that is in many cases technically complex, and communicate that value to the customer. Firms striving to develop a salesforce capable of delivering and

communicating this value would benefit greatly from the support of academic research that focuses on this distinctive field of inquiry. We hope that this research offers a fertile starting point for the development of this field.

Limitations and Future Research

There are several limitations of our current research that offer opportunities for refinement and further development in future research. First, our study does not rely on competency scales that have already been validated in the sales research, such as those offered by Rentz et al. (2002). This may be considered a limitation because the constructs we identified in our study were not subjected to validation that defines the gold standard of methodological rigor (such as the use of confirmatory factor analysis). However, because we felt that industrial sales might require a distinctive set of competencies, we thought it was more important to have industrial sales executives, deemed executives, to generate their own list of competencies, which we then compared in importance across different sales professions. Thus, we feel that our tradeoff of methodological rigor for external validity was the best course of action at this stage in this research program. Future research needs to validate the constructs we identified, and compare the relative importance of both the factors we identified as well as more established competency scales from the literature across different sales professions.

Another limitation of our research is that the response rates we obtained (16.4% for the sales managers) were somewhat low. Because we were striving for a random sample across numerous sales professions, our solicitations for participation were impersonal due to our lack of personal connections within every industry. We chose a tradeoff between the diversity of our sample vs. response rate. Future research can be used to validate our findings among additional samples.

Finally, although our research intends to identify competencies that drive salesperson success, we relied on respondents' subjective perceptions of "success" as the outcome of various competencies. Future research that incorporates objective indicators of success, such as achievement of sales quotas or sales managers' ratings of the salesperson's performance, would provide more reliable indicators of a salesperson's actual performance.

Despite these limitations, we feel that our study offers an important contribution to sales research. Because industrial sales has, to this point, never been defined in the sales literature, our research establishes a conceptual foundation and practitioner-driven insights for advancing the industrial sales profession.

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