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Selection for Service and Sales Jobs

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Abstract

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Selecting Employees for Service and Sales Jobs

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According to data from the Bureau of Labor Statistics (BLS), U.S. organizations currently employ over 30 million workers in service and sales occupations (U.S. Department of Labor, 2007). Although annual turnover rates can exceed 100% for some jobs in services and sales, even a conservative estimate of 20% turnover reveals that U.S. organizations select over 6 million service and sales workers each year. As such, many organizations have adopted formal assessment methods to improve hiring decisions and ultimately increase organizational effectiveness. Research shows that the use of validated selection tools as part of a broader, strategic approach to human resource management is associated with higher productivity, lower employee turnover, and better corporate financial performance (Huselid, 1995; Terpstra & Rozell, 1993). However, it is clear that not all selection methods are equally effective, nor do research findings apply uniformly to all occupations.

This chapter provides a review of selection research for service and sales occupations and is organized into three major sections. First, we describe the nature of service and sales work and define the competencies that underlie success in these jobs. Second, we summarize past research concerning the methods that have been used to select service and sales employees with attention to issues of validity, applicant reactions, and adverse impact. Finally, we discuss the implications of this body of work for practice and future research, highlighting several important but often overlooked issues concerning selection system design for this critical segment of today's workforce.

The Nature of Service and Sales Work

Companies rely upon their core service and sales workers to execute service-driven strategies and place the organization's products and services in the hands of customers and clients (Vinchur, Schippmann, Switzer, & Roth, 1998). Service and sales jobs share many similarities, as service- and sales-related tasks can be found in both types of occupations, and there is a large degree of competency overlap (Frei & McDaniel, 1998). As detailed below, many of the similarities are attributable to the high degree of interpersonal interaction with clients or customers that is required in these jobs (Mount, Barrick, & Stewart, 1998).

Major Duties and Responsibilities

Broadly defined, service work involves relational processes between service providers and customers. Unlike goods, services are relatively intangible, cannot be stored or transported, require the participation of the customer, and because of changing situational demands, tend to be less standardized (Bruhn & Georgi, 2006; Schneider & White, 2004). BLS data show that service workers have come to dominate the U.S. economy, as over 80% of jobs involve at least some aspect of service provision as opposed to goods production. Some of the most common job titles for service workers in the U.S. include *Customer Service Representative* (approximately 2.2 million employees) and *Waiter/Waitress* (2.4 million). Table 1 provides a sampling of these and other job titles commonly found within the service sector.

Insert Table 1 about here

O*NET's occupational information (www.onetcenter.org) reveals that the core activities of service workers often involve: (a) interacting directly with the public (i.e., customers), (b) processing customer requests (e.g., billing inquiries, food orders, bank deposits), (c) soliciting sales of new products and services, and (d) routinely dealing with unpleasant and angry people, such as when resolving complaints.

In contrast, the general nature of most sales work involves selling products and services to customers, clients, or businesses. Approximately 14 million people held sales and related occupations in 2007 (see Table 1 for a sample of common sales-related job titles). This group consists largely of *Retail Salespersons* (4.4 million), *Cashiers* (3.5 million), and *Sales Representatives* (2.5 million). Based on O*NET information, the core activities of sales workers include: (a) locating new clients or customers, (b) determining customers' needs, (c) providing information about products or services (e.g., features, benefits, pricing), (d) convincing customers to purchase products or services, (e) negotiating sale prices and terms, and (f) providing follow-up services.

Competencies Required for Success

O*NET data reveal several competencies (i.e., knowledge, skills, abilities, and other characteristics) that underlie successful performance in common service and sales occupations. These competencies and their O*NET definitions are summarized in Table 2.

Insert Table 2 about here

For the knowledge dimension, understanding basic customer and personal service principles and processes is necessary for both types of jobs, but importance ratings for this dimension are generally higher for service occupations than for sales occupations. In contrast, knowledge of sales and marketing concepts is essential for many sales jobs, but is rated as much less important for service positions. In terms of required skills, speaking, active listening, service orientation, and social perceptiveness are critical for both service and sales occupations. Time management and persuasion tend to be rated high in importance only for sales jobs. Analysis of the ability requirements reveals that both types of occupations require high levels of oral expression and oral comprehension ability. Examination of O*NET importance ratings for the final dimension, work styles, reveals that conscientiousness and adjustment are rated highly for both types of occupations. Interpersonal orientation is rated higher for service occupations, whereas achievement orientation is rated higher for sales jobs.

Contrasting Service and Sales Jobs

Although there are many similarities between service and sales occupations, closer examination of O*NET data reveals several notable differences in the degree to which certain characteristics are deemed critical to successful job performance. When compared to service occupations, sales employees must possess higher levels of initiative, persistence, persuasiveness, negotiation, and time management. In contrast, service work requires higher levels of interpersonal orientation and greater knowledge of customer service principles, and the

importance of sales and marketing knowledge is somewhat diminished. More broadly, sales workers are rewarded differently (e.g., commission-based pay) and tend to operate independent of supervision (Vinchur et al., 1998). Despite these differences, the selection systems ultimately adopted for service and sales workers are very similar. In the research review presented below, we do not make strong distinctions between the two unless warranted. Instead, we organize the review around the competencies that have been routinely assessed in past research.

Research on Selection for Service and Sales Workers

It is clear from our review of selection research published over the last 50 years or so that there are no simple solutions when it comes to designing selection systems for service and sales workers that are valid, fair, legally defensible, and relatively simple to administer. The review emphasizes validity evidence to reflect the focus of past research, and concludes with information regarding applicant perceptions and adverse impact considerations.

Selection Research on Personality and Personality-Related Characteristics

By far, most of the published literature on selection for service and sales workers involves personality assessment. This is perhaps not surprising given the interpersonal and motivational skills required for success in these occupations (see Table 2). Although there are exceptions, most of the published work in this area concerns assessment of the "Big 5" dimensions of personality using self-report, paper-and-pencil inventories. A smaller number of studies examine personality dimensions that are more narrowly defined or evaluate personality-related constructs that are developed specifically for service or sales occupations. Although we generally restrict the focus to personality measures used in service and sales domains, a broader discussion of personality and selection can be found in Hough (Chapter 14).

Big 5 personality dimensions. The dimensions of the Big 5 (or "Five Factor Model") include agreeableness, conscientiousness, emotional stability, extraversion, and openness to experience. Agreeableness is generally defined as being flexible, trusting, cooperative, forgiving, and tolerant (Barrick & Mount, 1991; Vinchur et al., 1998). Conscientiousness refers to one's level of dependability, achievement-orientation, and perseverance (Barrick & Mount, 1991). Emotional stability, also referred to as neuroticism, encompasses traits such as anxiousness, depression, anger, embarrassment, or insecurity (Barrick & Mount, 1991), while extraversion assesses interpersonal interaction, tapping such traits such as assertiveness and sociability (Vinchur et al., 1998). Finally, openness to experience refers to one's propensity to be imaginative, curious, intelligent or artistically sensitive (Barrick & Mount, 1991). Many scales have been developed to assess the Big 5, which often contain several hundred items.

Associations between Big 5 personality dimensions and performance in sales jobs have been summarized using meta-analysis. Vinchur and colleagues (1998) found average unadjusted correlations of .03 (agreeableness), .11 (conscientiousness), .05 (emotional stability), .09 (extraversion) and .06 (openness to experience) when supervisor-provided ratings were the performance criterion. Effects were somewhat larger after corrections for criterion unreliability and range restriction were applied ($r = .03$ to $.12$). When examining objective sales performance as the criterion, average unadjusted correlations of -.02 (agreeableness), .17 (conscientiousness), -.07 (emotional stability), .12 (extraversion), and .03 (openness to experience) were found. Values were generally larger once corrected for range restriction, particularly in the case of conscientiousness (.31) and extraversion (.22). Vinchur et al. also reported relatively larger effects for those studies that used an alternative taxonomy of personality dimensions. In particular, unadjusted validity coefficients for achievement (defined as a sub-dimension of

conscientiousness) and potency (sub-dimension of extraversion) as predictors of supervisor ratings were .14 and .15, respectively (corrected values were .25 and .28). When considering objective sales criteria, unadjusted validity estimates for achievement and potency were .23 and .15, respectively (corrected values were .41 and .26). In service contexts, dozens of studies (e.g., Avis, Kudisch & Fortunato, 2002; Hurley, 1998; Hunthausen, Truxillo, Bauer & Hammer, 2003; Liao & Chuang, 2004; Mount et al., 1998) reveal correlations with job performance ratings ranging from .09 to .20 (agreeableness), .11 to .33 (conscientiousness), .09 to .21 (emotional stability), .07 to .26 (extraversion) and .09 to .20 (openness to experience). Differences in types of jobs studied, the rating criteria adopted, and other study characteristics may explain the variability in effect size estimates reported in these studies, but these moderators have not been empirically evaluated to date.

In some studies, interactive effects among personality dimensions, moderating contextual influences, and other design considerations have been found to account for an additional 2% to 9% of the variance in performance ratings. Brown, Mowen, Donovan, and Licata (2002) studied frontline restaurant service workers and found that customer orientation partially mediated the relationship between certain personality traits (emotional stability, agreeableness, need for activity) and both self- and supervisor-provided performance ratings. The results indicated that customer orientation accounted for an additional 2% of the variance in supervisor-reported performance, and an additional 9% of the variance in self-reported performance. In a selection context, such results show the potential value of assessing certain traits (i.e., customer service orientation) in conjunction with more traditional personality characteristics.

Research has also found that certain cognitive-motivational work orientations, specifically accomplishment striving and status striving, may mediate the relationship between certain personality traits (i.e., conscientiousness and extraversion) and supervisor-rated job performance (Barrick, Stewart & Piotrowski, 2002). Barrick and colleagues sampled telemarketing sales representatives and found that an individual's orientation toward status striving mediated the relationship between extraversion and job performance such that individuals scoring higher on extraversion were more likely to strive for status, which in turn resulted in higher supervisor ratings of effectiveness. Similarly, individuals high in conscientiousness were more likely to strive for accomplishment, which led to higher effectiveness ratings indirectly through status striving.

Goal-setting behavior is another motivational variable that has been found to mediate the relationship between personality and job performance. Looking specifically at the personality trait of conscientiousness, Barrick, Mount and Strauss (1993) studied sales representatives of a large appliance manufacturer and found that the relationship between conscientiousness and supervisor-rated job performance was mediated by goal commitment and autonomous goal-setting, such that individuals scoring high in conscientiousness were more likely to set and commit to goals, which then led to increased job performance. The above studies illustrate the potential value of assessing motivational variables in the process of selection, as they demonstrate how such variables may impact the relationship between personality and job performance.

In terms of design, researchers have found that using supervisor, coworker, and customer ratings of employee personality (rather than self-ratings alone) increases the total explained

variance in performance ratings by an additional 11-20% (Mount, Barrick & Stauss, 1994). In addition, when job performance is measured using more specific versus general job criteria, personality characteristics appear to more accurately predict job performance ratings (Hogan & Holland, 2003). Regarding personality measurement, Hunthausen et al. (2003) studied entry-level customer service managers at a major airline and found that using an "at work" frame of reference (i.e., asking respondents to think about how they behave at work when responding to survey questions) resulted in stronger relationships between two dimensions of the Big 5 (extraversion and openness to experience) and supervisory ratings of performance when controlling for cognitive ability.

Narrow personality traits. While a large amount of research centers on broad measures of personality such as the Big 5, researchers have also examined relationships between specific or narrow traits of personality and job performance. In general, there is debate concerning whether broad or narrow measures of personality are best for predicting job performance. While some contend that broad measures are more successful at predicting overall performance (Ones & Viswesvaran, 1996), others maintain that narrow measures account for more variance, as researchers must relate the narrow personality traits to more specific aspects of job performance (Schneider, Hough, & Dunnette, 1996). In doing so, criterion-related validity may be improved, as the predictors (traits) are more closely attuned to the criterion (job performance).

While not as plentiful as the research involving broad traits, there is evidence supporting a narrow-traits approach to studying job performance. A meta-analysis conducted by Dudley, Orvis, Lebiecki and Cortina (2006) found (in their overall analysis, which included all types of jobs) that four narrow traits of conscientiousness (dependability, cautiousness, achievement,

order) have incremental validity over the global conscientiousness construct in predicting

performance. Specifically, the narrow traits explained an additional 3.7% of variance in overall

performance. Breaking performance into more specific criteria, narrow traits explained an

additional 5% to 26% of the variance in specific aspects of job performance, such as task

performance (4.6%), job dedication (25.9%), interpersonal facilitation (5.8%), and

counterproductive work behaviors (13.6%).

In addition, Dudley and colleagues examined the incremental validity of narrow traits of

conscientiousness based on occupational type. Jobs were divided into four occupation types:

sales, customer service, managerial, and skilled/semi-skilled. Across all occupational categories,

narrow conscientiousness traits were found to have incremental validity of 1% to 24% over the

global dimension. While the incremental validity of narrow traits over the global trait was

relatively small for the customer service occupational group (1.2%), it rose to 5.4% for the sales

group. The managerial occupational group showed a 9.3% increase in variance explained, while

the skilled/semi-skilled group posted the largest increase, at 24%. Based on these results, the

authors note that the degree of prediction offered by narrow traits depends in large part on the

type of job and the aspect of performance under study (Dudley et al., 2006). In the context of

sales and service selection, such results suggest that while the assessment of narrow

conscientiousness traits may be useful for selection of salespeople, such assessment may have

less utility for those positions with a customer service focus. While further research is necessary

to examine the utility of a narrow traits approach to personality assessment (particularly for other

personality dimensions), initial results suggest the assessment of narrow traits may be useful in

predicting performance for certain jobs.

Service/customer/sales orientation. Given the distinctive features of service and sales work, researchers have developed composite scales to assess candidates' dispositions towards customers, service, and/or sales. Sometimes referred to as "criterion-focused occupational personality scales" (Ones & Viswesvaran, 2001), these self-report, non-cognitive composite measures typically assess a pattern of personality characteristics thought to underlie successful performance in service and sales domains. Service orientation is one such construct, and it is defined as a set of basic predispositions to provide helpful customer service, including dimensions such as friendliness, reliability, responsiveness, courteousness, and cooperativeness (Cran, 1994; Frei & McDaniel, 1998; Hennig-Thurau, 2004; Hogan, Hogan, & Busch, 1984).

Meta-analysis findings provide evidence of validity for service orientation measures. In a review of 41 studies, and with supervisory performance ratings serving as the criterion, Frei and McDaniel (1998) reported an unadjusted validity coefficient of .24. They also showed that service orientation was moderately correlated (approximately .30-.40) with several Big 5 personality constructs (agreeableness, emotional stability, and conscientiousness), sales drive, and social vocational interests. Service orientation was generally unrelated to extraversion, openness to experience, cognitive ability, or other vocational interests. One caveat noted by Frei and McDaniel is that most of the coefficients summarized in the meta-analysis were drawn from unpublished studies that were produced by the test vendor. More recently, McDaniel, Rothstein, and Whetzel (2006) conducted a case study of test vendor technical reports and found evidence of "moderate-to-severe publication bias" such that two of the four test vendors studied showed a greater likelihood of reporting only statistically significant validity coefficients for particular scales. A second concern is that researchers have found that service orientation measures fare no better than general personality dimensions in predicting performance, and do not predict service-

focused criteria any better than they predict broader criteria such as overall performance or counterproductive work behaviors (Ones & Viswesvaran, 2001; Rosse, Miller, & Barnes, 1991).

A number of measures have been developed to evaluate sales potential, customer-oriented selling orientation, or sales ability. These scales variously reflect composite measures of personality facets that are important for success in sales occupations (e.g., Hakstian, Scratchley, MacLeod, Tweed & Siddarth, 1997; Hogan, Hogan, & Gregory, 1992; Li & Wang, 2007), self-assessments of behaviors taken when selling (Saxe & Weitz, 1982), or knowledge of basic selling principles (Bruce, 1953, 1971, as cited in Vinchur et al., 1998). These studies generally find that sales potential is predictive of supervisory ratings and objective sales (Farrell & Hakstian, 2001; Hogan et al., 1992; Li & Wang, 2007). Regarding selling/customer orientation, meta-analytic evidence from 19 studies reveals unadjusted validity coefficients of .17 for subjective performance measures and .06 for objective performance indicators, although confidence intervals for the two criteria overlap (Jaramillo, Ladik, Marshall, & Mulki, 2007). Vinchur and colleagues (1998) summarized the predictive validity of sales ability measures using meta-analysis and reported unadjusted average correlations of .26 (supervisory performance ratings) and .21 (objective sales).

Selection Research on Background, Experience, Interests, and Other Life History Dimensions

In addition to personality testing, the other dominant approach to the selection of service and sales workers involves systematic assessment of candidates' personal histories using biodata inventories. The most common approach has been to develop paper-and-pencil questionnaires that ask candidates about a variety of domains such as work history, experience, interests, values, attitudes, and leadership activities (e.g., Allworth & Hesketh, 2000; Jacobs, Conte, Day, Silva &

Harris, 1996; McManus & Kelly, 1999; Ployhart, Weekley, Holtz, & Kemp, 2003; Schoenfeldt, 1999; Stokes, Toth, Searcy, Stroupe & Carter, 1999). Regarding sales occupations, meta-analysis evidence reveals an average unadjusted correlation of .31 between biodata and job performance ratings, and .17 between biodata and objective sales (Vinchur et al., 1998). Dalessio and Silverhart (1994) found that biodata predicted 12-month survival and first-year commissions among life insurance sales agents, although effects tended to be smaller than those typically found for performance rating criteria. Research also supports biodata as a predictor in customer service contexts. Allworth and Hesketh (2000) found that a biodata inventory that measured experience with tasks and behaviors required in service jobs provided incremental validity beyond cognitive ability and personality measures in explaining supervisory performance ratings.

While biodata inventories encompass multiple aspects of an applicant's background, work experience is one element of such inventories that deserves more detailed examination. Organizations routinely advertise that "previous experience is required" for many service and sales jobs, but experience is rarely addressed in most validation studies. Drawing from two broader meta-analyses that included (but were not limited to) sales and service jobs reveals some support for work experience as a predictor of performance. Schmidt and Hunter (1998) reported an adjusted correlation of .18 between previous work experience (in years) and job performance. When work experience measures were categorized according to their level of specificity (task, job, organization) and measurement mode (amount, time, and type), researchers found adjusted correlations with performance ranging from .16 to .43 (Quinones, Ford, & Teachout, 1995), and suggested that validity can be maximized by measuring the amount of work experience and tailoring measures to the task level.

Although neither study was conducted with an exclusive focus on sales or service settings, other research demonstrates the potential of assessing an applicant's previous work experience in these contexts. Allworth and Hesketh (2000) approached the construct of work experience by collecting job requirements biodata from incumbents at an international hotel. This type of biodata asked participants to gauge how much their previous or current jobs required them to enlist certain customer service behaviors. Overall, the authors found that job requirements biodata accounted for 7.6% of unique variance in job performance. Further validation studies by Weekley and Jones (1997; 1999) in multiple service contexts found correlations between previous work experience and future performance that ranged from .14 to .19. Work experience was assessed using a multidimensional measure that asked participants to report their total full-time work experience, maximum tenure with any single organization, retail-specific work experience, number of different employers, and tenure in last job.

Selection Research on Cognitive Ability

Cognitive ability testing is somewhat of an enigma in the context of service and sales occupations. Although cognitive ability is a strong predictor of performance for a wide range of jobs (Hunter & Hunter, 1984; see also Ones et al., Chapter 12), research that is specific to service and sales occupations is somewhat mixed. Some studies report finding no relationship between cognitive ability and performance (Jacobs et al., 1996; Robie, Brown, & Shepherd, 2005), whereas others have found statistically significant effects, with validity coefficients generally ranging from .10 to .25 (Allworth & Hesketh, 2000; Avis et al., 2002; Cellar, DeGrendel, Klawsky & Miller, 1996; Hakstian et al., 1997; Miner, 1962; Rosse et al., 1991; Stokes, Hogan & Snell, 1993; Weekley & Jones, 1997, 1999). A meta-analysis of the cognitive ability-

performance relationship for sales jobs in particular may help explain these discrepant findings.

Vinchur et al. (1998) found an unadjusted validity coefficient of .23 for general cognitive ability

when the criterion was supervisory ratings of job performance (based on 22 studies), but only .02

when the criterion was objective sales volume (12 studies). Unadjusted validity coefficients

involving verbal ability and quantitative ability (two facets of general cognitive ability) were

generally low (-.17 to .08) and were largely based on a small number of studies. Thus, variance

in performance criteria, predictor dimensions, and sample characteristics may account for the

differences in effect sizes observed across studies. One final consideration is that O*NET data

for common sales and service occupations reveal importance ratings for problem solving and

critical thinking skills that are comparably lower than those for social skills, which may also

explain why cognitive ability is not a stronger predictor of performance in service and sales

contexts. On the other hand, certain service and sales jobs may indeed require fairly high levels

of critical thinking and problem solving, such as those that require consultative selling and

ongoing relationship management (e.g., pharmaceutical sales, see Ahearne, Bhattacharya, &

Gruen, 2005).

Selection Research on Situational Judgment

Situational judgment tests present candidates with a variety of job-related scenarios and

ask how they would respond to each situation (McDaniel, Hartman, Whetzel, & Grubb, 2007;

Weekley & Jones, 1997). For example, candidates for service-related positions may be asked

how they would respond when a customer requests an item that the store does not carry

(Weekley & Jones, 1999). Based on scoring guidelines established during test development,

responses are weighted based on how well they match the judgment exercised by high-

performing incumbents. Research shows unadjusted validity coefficients averaging the mid-.20s

when situational judgment tests are used to predict job performance (McDaniel et al., 2007).

Although this meta-analysis was not restricted to service and sales research, the findings are

consistent with individual studies conducted in service contexts that have used a video-based

mode of administration rather than paper-and-pencil (Cellar et al., 1996; Weekley & Jones, 1997,

1999). These latter studies also show that situational judgment tests offer incremental validity

over cognitive ability as a predictor of performance.

Applicant Reactions

In addition to validity concerns, it is important to consider how applicants will respond to

different selection procedures. Broadly speaking, research on applicant reactions involves

understanding candidates' perceptions of the fairness and job relatedness of different selection

procedures. The general arguments put forth in this area suggest that candidates who hold

negative perceptions of the selection process will be less attracted to the company, less likely to

recommend the company to others, and perhaps even less likely to perform well or remain on the

job (Gilliland, 1993). Recent reviews and meta-analytic evidence confirm many of these

propositions, with the exception of the hypothesized behavioral outcomes, which have yet to be

systematically addressed (Hausknecht, Day, & Thomas, 2004; Ryan & Ployhart, 2000).

When compared with a list of other possible selection methods, participants have among

the least favorable reactions to personality inventories and biodata, whereas reactions to

cognitive ability testing tend to be somewhat more positive, but not as favorable as they are to

interviews or work samples (Hausknecht et al., 2004). We are not aware of any published work

on applicants' reactions to occupation-specific inventories. Given their strong association with

personality inventories, one might expect reactions to be somewhat negative. However, because

these tests have been designed for particular applications in service and sales contexts, fairness

and job relatedness perceptions may improve because of the close connections to relevant

aspects of the job. Smither and colleagues found that applicants' perceptions were more positive

for item types that were less abstract, suggesting that occupation-specific predictors may fare

somewhat better on this dimension (Smither, Reilly, Millsap, Pearlman, & Stoffey, 1993).

Applicant reactions to situational judgment tests have been studied infrequently, but evidence

from Chan and Schmitt (1997) indicates that reactions to a video-based situational judgment test

were favorable and comparable in magnitude to those found for work sample tests in the

Hausknecht et al. (2004) meta-analysis. Bauer and Truxillo (2006) note that reactions to

situational judgment tests may be dependent on the stimulus and response formats used (i.e.,

written vs. video, multiple-choice vs. open-ended), but suggested that reactions to situational

judgment tests overall should be more favorable than reactions to selection procedures with more

abstract content.

Adverse Impact

        Given the legal context of selection and employment testing, concerns about adverse

impact must be given due consideration in selection system design and administration. Although

a detailed treatment of adverse impact research is beyond the scope of this chapter (see Hough,

Oswald, & Ployhart, 2001), several findings are summarized here concerning subgroup

differences in test scores for the predictor classes reviewed above. We note up front that even

small subgroup differences can produce adverse impact (as defined by the 4/5ths rule),

particularly as organizations become more selective (Sackett & Ellingson, 1997). Further,

adverse impact calculations involving a small number of hires and/or low selection ratios tend to produce higher numbers of false positives, meaning that adverse impact can be found even though subgroup differences are not statistically significant (Roth, Bobko, & Switzer, 2006). Finally, it is important to point out that many of the estimates reported below are based on reviews that include, but are not limited to, samples drawn from service and sales domains. At this point in the literature, there are simply too few published studies available to make definitive conclusions concerning adverse impact in sales and service settings.

Generally speaking, subgroup differences based on ethnic/cultural background, gender, and age for Big 5 personality measures tend to be minimal, and when found are typically less than one-tenth of a standard deviation. The largest effects have been found for measures of agreeableness (women tend to score about four-tenths of a standard deviation higher than men) and emotional stability (men tend to score about one-quarter of a standard deviation higher than women; Hough et al., 2001). Subgroup differences have not been comprehensively assessed for measures of service/sales/customer orientation, although the large overlap with personality constructs suggests that differences would be relatively small. Hogan and colleagues examined archival data for a personality-based sales potential inventory and found no differences when comparing scores across ethnic/cultural and gender-based subgroups (Hogan et al., 1992). Published data concerning subgroup differences for biodata inventories in sales and service contexts is limited, although broader reviews find that the average performance for Whites is about one-third of a standard deviation higher than that for Blacks (Bobko, Roth, & Potosky, 1999).

For measures of cognitive ability, the cumulative evidence (across all types of occupations) indicates that Whites score approximately one standard deviation higher than Blacks, over one-half of a standard deviation higher than Hispanics, and approximately two-tenths of a standard deviation lower than Asians (Hough et al., 2001; Roth, Bevier, Bobko, Switzer & Tyler, 2001). These estimates are moderated by job complexity such that subgroup differences tend to be larger for less complex jobs. Thus, given that many service and sales occupations are relatively low in complexity (see O*NET), subgroup differences may be somewhat larger in these domains. Regarding age and gender differences, research shows that age and cognitive ability test scores tend to be negatively related, whereas average performance on general cognitive ability measures does not differ between males and females (Hough et al., 2001). Finally, research on subgroup differences for video-based and written situational judgment tests shows that Whites tend to score about four-tenths of a standard deviation higher than members of other ethnic/cultural groups, whereas women tend to score slightly higher (approximately one-tenth of a standard deviation) than men (Nguyen, McDaniel, & Whetzel, 2005, cited in Ployhart & Holtz, 2008). Potential age-based differences for situational judgment tests have not been reported in the published literature.

In summary, validity and adverse impact considerations often represent tradeoffs. Selection methods with strong evidence of predictive validity often share variance with cognitive ability, and cognitively-loaded measures tend to produce the highest levels of adverse impact. Pyburn, Ployhart, and Kravitz (2008) termed this situation the "diversity-validity dilemma." From a practical standpoint, there are many strategies available to selection specialists who must balance diversity and validity concerns, and the interested reader is directed to several recent papers that provide valuable critiques of these various approaches (Aguinas & Smith, 2007; De

Corte, Lievens, & Sackett, 2007; Kravitz, 2008; Ployhart & Holtz; 2008). One common

conclusion from this line of research is that, to date, there are no universal solutions that

successfully maximize validity and eliminate adverse impact.

<div align="center">Implications for Practice and Future Research</div>

Despite the wealth of information available concerning service and sales selection,

several opportunities remain to enhance our understanding of the factors that contribute to

effective selection in these domains. We raise several issues with regard to past research in terms

of: (a) the criteria adopted, (b) the range of predictors studied, (c) the temporal perspectives

addressed, and (d) the levels of analysis considered.

Criterion Issues

Much of the research reviewed here has included supervisory performance ratings as the

sole criterion. Although these ratings serve many important functions, a pessimistic view is that

organizations are not as interested in boosting the performance appraisal ratings of its members

as they are in increasing sales volume and service quality perceptions among customers.

Objective sales figures have obvious implications for an organization's bottom line, and

customer perceptions of service quality are an important leading indicator of future sales and

repeat business (Bowman & Narayandas, 2004). Further, in the sales domain in particular,

research has shown that validity coefficients vary considerably across different criteria (Vinchur

et al., 1998). Thus, organizations that use cognitive ability tests, for example, may see no benefit

in terms of enhanced sales volume among new hires (but would identify candidates who will be

rated highly by supervisors). Despite the appeal of using objective sales criteria, such validation

work requires adequate consideration of situational opportunities that may influence performance

(Stewart & Nandkeolyar, 2006). For example, researchers have advocated for controlling geographic or territorial constraints such as market potential, workload, company presence in a particular area, local economic conditions, and other region-specific factors (Cravens & Woodruff, 1973; McManus & Brown, 1995).

In addition to considering alternative measures of job performance, researchers might broaden the types of criteria examined in future research. Only a handful of studies reviewed here examined withdrawal behaviors or counterproductive work behaviors (e.g., Dalessio & Silverhart, 1994; Jacobs et al., 1996; Ones & Viswesvaran, 2001). Given the significant costs associated with these outcomes, it would be useful to broaden the scope of selection research by incorporating these criteria into validity studies whenever possible.

Predictor Issues

Almost exclusively, published research in this area tends to feature self-report, paper-and-pencil personality tests or biodata inventories. This work is valuable, but research must also respond to new and different forms of assessment. For example, Winkler (2006) estimates that about 5% of organizations (e.g., Toyota, SunTrust Bank) are using technology to assess important competencies via online job simulations. These interactive assessments place candidates in a virtual environment that mirrors the work that they would be doing on the job, and allows companies to assess important competencies while providing a realistic preview of the work itself. Other forms of capturing live behavior, such as assessment centers, may also be appropriate for assessing service and sales candidates, although little work has been published in this area (see Burroughs & White, 1996, for an exception).

The format of predictors is another important consideration, particularly as organizations consider how to leverage technology when building selection systems. Technology-based selection measures differ from their paper-and-pencil counterparts in several ways (Weekley & Jones, 1997, 1999; see also Reynolds & Dickter, Chapter 8), and suggest a different profile of considerations for organizations in terms of costs, applicant reactions, administrative ease, and so forth. Until additional research examines these alternative approaches in the context of what we already know, it is unclear what (if any) effect these alternative forms of assessment have on selection outcomes in service and sales contexts.

Temporal Issues

Another issue raised by this analysis is that we currently know very little about the role of time in the selection process. Much of the research reviewed here uses concurrent (i.e., cross-sectional) designs or time-lagged predictive designs with a fairly short temporal window (e.g., 6-month performance review). Yet recent explorations into predictors of performance *trends* suggest that past findings may not readily generalize across time (Ployhart & Hakel, 1998; Stewart & Nandkeolyar, 2006; Thoresen, Bradley, Bliese, & Thoresen, 2004). For example, in a study of insurance sales personnel, Hofmann, Jacobs, and Baratta (1993) found that the performance of sales agents followed a quadratic trend over time such that mean performance was initially positive and linear, then curved asymptotically with time. The authors suggested that different skills and abilities may be predictive of performance at early and later stages of the sales agents' careers. Goal orientation was advanced as a potential determinant of intraindividual performance trends, such that highly goal oriented individuals may be better equipped to learn

from unsuccessful sales calls over time and more likely to engage in the self-development

activities that ultimately lead to improved performance.

Other researchers have shown that conclusions about personality-performance

relationships differ when comparing cross-sectional and longitudinal designs such that certain

personality characteristics are more predictive of performance trends than they are of initial

performance (Thoresen et al., 2004), whereas others moderate the effect of situational

opportunities on performance over time (Stewart & Nandkeolyar, 2006). Conclusions about the

predictive validity of cognitive ability measures are also likely to be time-dependent in service

and sales contexts. Keil and Cortina (2001) found that validity coefficients decline with time, and

although their review was not limited to sales and service contexts, Cascio and Aguinas (2005)

argued that task performance should be dynamic in service contexts (thus making it more

difficult to predict over time) because service workers often have to adapt to new work processes

as new products or services are introduced. These studies demonstrate that by focusing more

closely on temporal dynamics, organizations can not only select candidates who are likely to

perform well soon after hire, but also identify those who have the capacity to increase their

performance over time or reach proficiency in a shorter period, both of which are critically

important to long-term organizational success.

Levels Issues

A final consideration is that nearly all of the studies reviewed here focus on selection at

the individual level of analysis. This reflects a long tradition in psychology of examining

individual difference characteristics that might relate to individual job performance. However,

selection researchers have argued that the field needs to examine relationships at higher levels of

analysis such as the group, work unit, or organization (Ployhart, 2004; 2006). In one recent empirical example, Ployhart, Weekley, and Baughman (2006) found unique personality-performance associations at individual, job, and organizational levels and concluded that higher level relationships may occur because certain personality factors are related to the teamwork and coordination behaviors that are critical for success in service work.

Another multilevel study examining the impact of managerial personality traits and service quality orientation on service climate found that a manager's personality may play a role in shaping service climate (Salvaggio, Schneider, Nishii, Mayer, Ramesh & Lyon, 2007). Core self-evaluations were administered to managers, in which participants were asked to rate themselves on certain personality traits (i.e., self-esteem, self-efficacy, neuroticism, etc.). Results indicated that managers with more positive self-evaluations had higher service quality orientations, which in turn led to more positive service climates. As the authors note, these results demonstrate the potential impact that individual managers' personality traits may have on the overall workplace service climate. Considering that service climate is positively related to sales volume via customer-focused citizenship behaviors and customer satisfaction (Schneider, Ehrhart, Mayer, Saltz & Niles-Jolley, 2005), such findings show that careful attention to employee selection may be useful not only in predicting individual performance, but also more distal indicators of success for the work unit or organization. Taken together, these studies demonstrate that multilevel approaches are valuable for addressing the long-standing question of how to improve organizational effectiveness through selection (see also Ployhart & Weekley, Chapter 9).

Conclusion

Service and sales workers represent a significant portion of the global workforce, and the economic success of many organizations hinges upon their performance. While much remains to be learned, the research reviewed here shows that careful attention to selection system design provides organizations with an opportunity to improve the overall quality of hiring decisions for service and sales employees. Results clearly indicate that investments in formal selection methods improve the odds of finding service and sales workers who will perform well on the job. The validity coefficients discussed here are not large; however, they can translate into substantial benefits in terms of reduced hiring and training costs, increased sales productivity, and better service quality. Combining the results of these individual level studies with what we are beginning to learn about similar relationships at higher levels and over time shows that effective selection is a viable means by which organizations can generate an advantage over competitor firms.

References

Aguinas, H. & Smith, M.A. (2007). Understanding the impact of test validity and bias on

selection errors and adverse impact in human resource selection. *Personnel Psychology,*

60, 165-199.

Ahearne, M., Bhattacharya, C.B., & Gruen, T. (2005). Antecedents and consequences of

customer-company identification: Expanding the role of relationship marketing. *Journal*

of Applied Psychology, 90, 574-585.

Allworth, E., & Hesketh, B. (2000). Job requirements biodata as a predictor of performance in

customer service roles. *International Journal of Selection and Assessment, 8,* 137-147.

Avis, J. M., Kudisch, J. D., & Fortunato, V. J. (2002). Examining the incremental validity and

adverse impact of cognitive ability and conscientiousness on job performance. *Journal of*

Business and Psychology, 17, 87-105.

Barrick, M.R. & Mount, M.K. (1991). The big five personality dimensions and job performance:

A meta-analysis. *Personnel Psychology*, *44*, 1-26.

Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of

sales representatives - Test of the mediating effects of goal-setting. *Journal of Applied*

Psychology, 78, 715-722.

Barrick, M. R., Stewart, G. L., & Piotrowski, M. (2002). Personality and job performance: Test

of the mediating effects of the motivation among sales representatives. *Journal of*

Applied Psychology, 87, 43-51.

Bauer, T.N., & Truxillo, D.M. (2006). Applicant reactions to situational judgment tests:

Research and related practical issues. In J.A. Weekley & R.E. Ployhart (Eds.), *Situational*

judgment tests: Theory, measurement, and applications (pp.233-249). Mahwah, NJ: Erlbaum.

Bobko, P., Roth, P.L., & Potosky, D. (1999). Derivation and implications of a meta-analytic matrix incorporating cognitive ability, alternative predictors, and job performance. *Personnel Psychology, 52,* 561-589.

Bowman, D., & Narayandas, D. (2004). Linking customer management effort to customer profitability in business markets. *Journal of Marketing Research, 41*, 433-447.

Brown, T. J., Mowen, J. C., Donovan, D. T., & Licata, J. W. (2002). The customer orientation of service workers: Personality trait effects on self- and supervisor performance ratings. *Journal of Marketing Research, 39,* 110-119.

Bruhn, M., & Georgi, D. (2006). *Services marketing: Managing the service value chain*. Essex, England: Pearson.

Burroughs, W.A., & White, L.L. (1996). Predicting sales performance. *Journal of Business and Psychology, 11,* 73-84.

Cascio, W.F., & Aguinas, H. (2005). Test development and use: New twists on old questions. *Human Resource Management, 44,* 219-235.

Cellar, D. F., DeGrendel, D. J. D., Klawsky, J. D., & Miller, M. L. (1996). The validity of personality, service orientation, and reading comprehension measures as predictors of flight attendant training performance. *Journal of Business and Psychology, 11,* 43-54.

Chan, D., & Schmitt, N. (1997). Video-based versus paper-and-pencil method of assessment in situational judgment tests: Subgroup differences in test performance and face validity. *Journal of Applied Psychology, 82,* 143-159.

Cran, D. J. (1994). Towards validation of the service orientation construct. *Service Industries Journal, 14,* 34-44.

Cravens, D.W., & Woodruff, R.B. (1973). An approach for determining criteria of sales performance. *Journal of Applied Psychology, 57,* 242-247.

Dalessio, A. T., & Silverhart, T. A. (1994). Combining biodata test and interview information: Predicting decisions and performance criteria. *Personnel Psychology, 47,* 303-315.

De Corte, W., Lievens, F., & Sackett, P.R. (2007). Combining predictors to achieve optimal trade-offs between selection quality and adverse impact. *Journal of Applied Psychology, 92,* 1380-1393.

Dudley, N. M., Orvis, K. A., Lebiecki, J. E., & Cortina, J. M. (2006). A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits. *Journal of Applied Psychology, 91,* 40-57.

Farrell, S., & Hakstian, A. R. (2001). Improving salesforce performance: A meta-analytic investigation of the effectiveness and utility of personnel selection procedures and training interventions. *Psychology & Marketing, 18,* 281-316.

Frei, R. L., & McDaniel, M. A. (1998). Validity of customer service measures in personnel selection: A review of criterion and construct evidence. *Human Performance, 11,* 1-27.

Gilliand, S.W. (1993). The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, 18, 694-734.

Hakstian, A. R., Scratchley, L. S., MacLeod, A. A., Tweed, R. G., & Siddarth, S. (1997). Selection of telemarketing employees by standardized assessment procedures. *Psychology & Marketing, 14,* 703-726.

Hausknecht, J.P., Day, D.V. & Thomas, S.C. (2004). Applicant reactions to selection procedures: An updated model and meta-analysis. *Personnel Psychology*, *57*, 639-683.

Hennig-Thurau, T. (2004). Customer orientation of service employees - Its impact on customer satisfaction, commitment, and retention. *International Journal of Service Industry Management, 15,* 460-478.

Hofmann, D.A., Jacobs, R., & Baratta, J.E. (1993). Dynamic criteria and the measurement of change. *Journal of Applied Psychology, 78,* 194-204.

Hogan, J., & Holland, B. (2003). Using theory to evaluate personality and job-performance relations: A socioanalytic perspective. *Journal of Applied Psychology, 88,* 100-112.

Hogan, J., Hogan, R. & Busch, C.M. (1984). How to measure service orientation. *Journal of Applied Psychology*, *69*, 167-173.

Hogan, J., Hogan, R., & Gregory, S. (1992). Validation of a sales representative selection inventory. *Journal of Business and Psychology, 7,* 161-171.

Hough, L. M., Oswald, F. L., & Ployhart, R. E. (2001). Determinants, detection and amelioration of adverse impact in personnel selection procedures: Issues, evidence and lessons learned. *International Journal of Selection and Assessment, 9,* 152-194.

Hunter, J.E., & Hunter, R.F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin, 96,* 72-98.

Hunthausen, J. M., Truxillo, D. M., Bauer, T. N., & Hammer, L. B. (2003). A field study of

frame-of-reference effects on personality test validity. *Journal of Applied Psychology, 88,*

545-551.

Hurley, R. F. (1998). Customer service behavior in retail settings: A study of the effect of service

provider personality. *Journal of the Academy of Marketing Science, 26,* 115-127.

Huselid, M.A. (1995). The impact of human resource management practices on turnover,

productivity, and corporate financial performance. *Academy of Management Journal*, *38*,

635-672.

Jacobs, R. R., Conte, J. M., Day, D. V., Silva, J. M., & Harris, R. (1996). Selecting bus drivers:

Multiple predictors, multiple perspectives on validity, and multiple estimates of utility.

Human Performance, 9, 199-217.

Jaramillo, F., Ladik, D. M., Marshall, G. W., & Mulki, F. P. (2007). A meta-analysis of the

relationship between sales orientation-customer orientation (SOCO) and salesperson job

performance. *Journal of Business and Industrial Marketing, 22,* 302-310.

Keil, C.T., & Cortina, J.M. (2001). Degradation of validity over time: A test and extension of

Ackerman's model. *Journal of Applied Psychology, 127,* 673-697.

Kravitz, D.A. (2008). The diversity-validity dilemma: Beyond selection – the role of affirmative

action. *Personnel Psychology, 61,* 173-193.

Li, L., & Wang, L. (2007). Development and validation of the salespeople forced choice

behavioral style test in the information technology industry. *Personality and Individual*

Differences, 42, 99-110.

Liao, H., & Chuang, A. (2004). A multilevel investigation of factors influencing employee
     service performance and customer outcomes. *Academy of Management Journal, 47,* 41-
     58.

McDaniel, M. A., Hartman, N. S., Whetzel, D. L., & Grubb, W. L. (2007). Situational judgment
     tests, response instructions, and validity: A meta-analysis. *Personnel Psychology, 60,* 63-
     91.

McDaniel, M. A., Rothstein, H. R., & Whetzel, D. L. (2006). Publication bias: A case study of
     four test vendors. *Personnel Psychology, 59,* 927-953.

McManus, M.A., & Brown, S.H. (1995). Adjusting sales results measures for use as criteria.
     Personnel Psychology, 48, 391-400.

McManus, M. A., & Kelly, M. L. (1999). Personality measures and biodata: Evidence regarding
     their incremental predictive value in the life insurance industry. *Personnel Psychology,
     52,* 137-148.

Miner, J. B. (1962). Personality and ability factors in sales performance. *Journal of Applied
     Psychology, 46,* 6-13.

Mount, M. K., Barrick, M. R., & Stewart, G. L. (1998). Five-factor model of personality and
     performance in jobs involving interpersonal interactions. *Human Performance, 11,* 145-
     165.

Mount, M. K., Barrick, M. R., & Strauss, J. P. (1994). Validity of observer ratings of the big 5
     personality-factors. *Journal of Applied Psychology, 79,* 272-280.

Ones, D. S., & Viswesvaran, C. (1996). Bandwidth-fidelity dilemma in personality measurement
     for personnel selection. *Journal of Organizational Behavior, 17,* 609-626.

Ones, D. S., & Viswesvaran, C. (2001). Integrity tests and other criterion-focused occupational

    personality scales (COPS) used in personnel selection. *International Journal of Selection*

    and Assessment, 9, 31-39.

Ployhart, R.E. (2004). Organizational staffing: A multilevel review, synthesis, and model.

    Research in personnel and human resource management, 23, 121-176.

Ployhart, R.E. (2006). Staffing in the 21st century: New challenges and strategic opportunities.

    Journal of Management, 32, 868-897.

Ployhart, R.E., & Hakel, M.D. (1998). The substantive nature of performance variability:

    Predicting interindividual differences in intraindividual performance. *Personnel*

    Psychology, 51, 859-901.

Ployhart, R.E., & Holtz, B.C. (2008). The diversity-validity dilemma: Strategies for reducing

    racioethnic and sex subgroup differences and adverse impact in selection. *Personnel*

    Psychology, 61, 153-172.

Ployhart, R. E, Weekley, J.A., & Baughman, K. (2006). The structure and function of human

    capital emergence: A multilevel examination of the attraction-selection-attrition model.

    Academy of Management Journal, 49, 661-677.

Ployhart, R. E., Weekley, J. A., Holtz, B. C., & Kemp, C. (2003). Web-based and paper-and-

    pencil testing of applicants in a proctored setting: Are personality, biodata, and situational

    judgment tests comparable? *Personnel Psychology, 56,* 733-752.

Pyburn, K.M., Ployhart, R.E., & Kravitz, D.A. (2008). The diversity-validity dilemma: Overview

    and legal context. *Personnel Psychology, 61,* 143-151.

Quinones, M.A., Ford. J.K., & Teachout, M.S. (1995). The relationship between work

    experience and job performance: A conceptual and meta-analytic review. *Personnel*

    Psychology, 48, 887-910.

Robie, C., Brown, D.J., & Shepherd, W.J. (2005). Interdependence as a moderator of the

    relationship between competitiveness and objective sales performance. *International*

    Journal of Selection and Assessment, 13, 274-281.

Rosse, J.G., Miller, H.E., & Barnes, L.K. (1991). Combining personality and cognitive ability

    predictors for hiring service-oriented employees. *Journal of Business and Psychology, 5,*

    431-445.

Roth, P.L., Bevier, C.A., Bobko, P., Switzer, F.S., III, & Tyler, P. (2001). Ethnic group

    differences in cognitive ability in employment and educational settings: A meta-analysis.

    Personnel Psychology, 54, 297-330.

Roth, P.L., Bobko, P., & Switzer, F.S., III, (2006). Modeling the behavior of the 4/5ths rule for

    determining adverse impact: Reasons for caution. *Journal of Applied Psychology, 91,*

    507-522.

Ryan, A.M., & Ployhart, R.E. (2000). Applicants' perceptions of selection procedures and

    decisions: A critical review and agenda for the future. *Journal of Management, 26,* 565-

    606.

Sackett, P.R., & Ellingson, J.E. (1997). The effects of forming multi-predictor composites on

    group differences and adverse impact. *Personnel Psychology, 50,* 707-721.

Salvaggio, A.N., Schneider, B., Nishii, L.H., Mayer, D.M., Ramesh, A. & Lyon, J.S. (2007).

    Manager personality, manager service quality orientation, and service climate: Test of a

    model. *Journal of Applied Psychology, 92,* 1741-1750.

Saxe, R., & Weitz, B.A. (1982). The SOCO scale: A measure of the customer orientation of

    salespeople. *Journal of Marketing Research, 19,* 343-351.

Schmidt, F.L., Hunter, J.E. (1998). The validity and utility of selection methods in personnel

    psychology: Practical and theoretical implications of 85 years of research findings.

    Psychological Bulletin, 124, 262-274.

Schneider, B., Ehrhart, M.G., Mayer, D.M., Saltz, J.L., & Niles-Jolly, K. (2005). Understanding

    organization-customer links in service settings. *Academy of Management Journal, 48,*

    1017-1032.

Schneider, B., & White, S.S. (2004). *Service quality: Research perspectives*. Thousand Oaks,

    CA: Sage.

Schneider, R.J., Hough, L.M., & Dunnette, M.D. (1996). Broadsided by broad traits: How to sink

    science in five dimensions or less. *Journal of Organizational Behavior, 17,* 639-655.

Schoenfeldt, L. F. (1999). From dust bowl empiricism to rational constructs in biographical data.

    Human Resource Management Review, 9, 147-167.

Smither, J. W., Reilly, R. R., Millsap, R. E., Pearlman, K., & Stoffey, R. W. (1993). Applicant

    reactions to selection procedures. *Personnel Psychology, 46,* 49-76.

Stewart, G. L., & Nandkeolyar, A. K. (2006). Adaptation and intraindividual variation in sales

    outcomes: Exploring the interactive effects of personality effects of personality and

    environmental opportunity. *Personnel Psychology, 59,* 307-332.

Stokes, G. S., Hogan, J. B., & Snell, A. F. (1993). Comparability of incumbent and applicant

    samples for the development of biodata keys - The influence of social desirability.

    Personnel Psychology, 46, 739-762.

Stokes, G. S., Toth, C. S., Searcy, C. A., Stroupe, J. P., & Carter, G. W. (1999).

    Construct/rational biodata dimensions to predict salesperson performance: Report on the

    US Department of Labor sales study. *Human Resource Management Review, 9,* 185-218.

Terpstra, D. E., & Rozell, E. J. (1993). The relationship of staffing practices and organizational

    level measures of performance. *Personnel Psychology, 46,* 27-48.

Thoresen, C. J., Bradley, J. C., Bliese, P. D., & Thoresen, J. D. (2004). The big five personality

    traits and individual job performance growth trajectories in maintenance and transitional

    job stages. *Journal of Applied Psychology, 89,* 835-853.

U.S. Department of Labor. (2007). Occupational employment and wages, 2007. Washington DC:

    Author.

Vinchur, A. J., Schippmann, J. S., Switzer, F. S., & Roth, P. L. (1998). A meta-analytic review

    of predictors of job performance for salespeople. *Journal of Applied Psychology, 83,* 586-

    597.

Weekley, J. A., & Jones, C. (1997). Video-based situational testing. *Personnel Psychology, 50,*

    25-49.

Weekley, J. A., & Jones, C. (1999). Further studies of situational tests. *Personnel Psychology,*

    52, 679-700.

Winkler, C. (2006). Job tryouts go virtual: Online job simulations provide sophisticated

    candidate assessments. *HR Magazine, 51,* 131-134.

Table 1

Job Titles for Common Occupations in Services and Sales

Services	Sales
Flight Attendants	Retail Salespersons
Customer Service Representatives	Real Estate Sales Agents
Ticket Agents and Travel Clerks	Sales Representatives
Tellers	Telemarketers
Hotel, Motel, and Resort Desk Clerks	Insurance Sales Agents
Waiters and Waitresses	Travel Agents
Gaming Service Workers	Advertising Sales Agents
Concierges	Cashiers

Source: O*NET

Table 2

Important Worker Requirements and Characteristics for Service and Sales Occupations

Worker Requirements	Worker Characteristics
Knowledge	**Abilities**
Customer and personal service[a]: knowledge of customer service principles and processes (e.g., customer needs assessment, quality service standards, evaluating customer satisfaction)	*Oral comprehension*: the ability to listen to and understand information and ideas presented through spoken words and sentences
Sales and marketing[b]: knowledge of principles and methods for promoting and selling products and services (e.g., marketing strategies, product demonstrations, sales techniques)	*Oral expression*: the ability to communicate information and ideas in speaking so that others will understand
Skills	**Work Styles**
Speaking: talking to others to convey information effectively	*Conscientiousness*: being dependable, reliable, attentive to detail, and trustworthy
Active listening: giving full attention to what others are saying, taking time to understand points made, and asking questions as appropriate	*Adjustment*: poise, flexibility, maintaining composure, and dealing calmly with high stress situations
Service orientation: actively looking for ways to help people	*Interpersonal orientation*[a]: being pleasant, cooperative, sensitive to others, and preferring to associate with other organizational members
Social perceptiveness: maintaining an awareness of others' reactions and understands why they react as they do	*Achievement orientation*[b]: setting personal goals, persisting in the face of obstacles, and willing to take on responsibilities and challenges
Time management[b]: managing one's own time and the time of others	
Persuasion[b]: persuading others to change their minds or behavior	

Source: O*NET

Note: O*NET defines Worker Requirements as "descriptors referring to work-related attributes acquired and/or developed through experience and education." Worker Characteristics are defined as "enduring characteristics that may influence both work performance and the capacity to acquire knowledge and skills required for effective work performance.

[a] Rated as more important for service-related occupations.
[b] Rated as more important for sales-related occupations.