

What drives salesperson performance?

A meta-analysis of 268 studies marked four of 18 driver categories as significant correlates of salesperson performance. A ranking, not a proven cause.

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Management summary

Salesperson performance is what an individual salesperson does and achieves, judged by its contribution to the selling firm's goals, and how it is measured changes what appears to drive it. This concept guide reports the meta-analysis by Verbeke, Dietz and Verwaal of 268 studies from 1982 to 2008: of 18 driver categories, four had average correlations with performance marked significant (selling-related knowledge, degree of adaptiveness, cognitive aptitude and, negatively, role ambiguity), and several relationships shifted with the performance measure. It explains why a ranked correlation is not a proven lever, what the authors' knowledge-broker conjecture rests on, and what Hunter and Perreault's field study found about which uses of sales technology go with which aspects of performance. The sources are one meta-analysis of correlational studies and one survey of one sales force.

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What counts as salesperson performance?

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Behaviour first, and results as one part of it. Hunter and Perreault (2007)¹ define sales performance, following a sales management textbook by Johnston and Marshall, as “behavior evaluated in terms of its contribution to the goals of the organization”. A volume figure such as units or revenue sold may be an important aspect of that behaviour, and the authors warn that such a quantitative outcome measure “can also be precisely the wrong measure in a relational selling context”.

¹ Hunter, G. K., & Perreault, W. D., Jr. (2007). Making sales technology effective. *Journal of Marketing*, 71(1), 16–34.

Verbeke et al. (2011)² do not define the construct themselves; they take what the primary studies measured. Their meta-analysis admits studies of individual salespeople and drops those that measured performance at another level: “Most of these (65 studies) measured performance on levels other than the individual salesperson (e.g., organizational).” The studies they keep measure performance by a manager’s rating, by the salesperson’s own rating or by an objective performance measure such as sales data, with one item or several, and as outputs or as behaviours, as traditional sales results or as the quality of customer relationships. The authors concede that “sales scholars have generally been insensitive to such differentiations” and leave open “what constitutes sales performance in today’s economy?”

² Verbeke, W., Dietz, B., & Verwaal, E. (2011). Drivers of sales performance: A contemporary meta-analysis. Have salespeople become knowledge brokers? *Journal of the Academy of Marketing Science*, 39(3), 407–428.

In this guide, salesperson performance means what an individual salesperson does and achieves, judged by its contribution to the selling firm’s goals, and always stated with its measure: whose judgement it is (sales data, a manager or the salesperson) and what is counted (outputs, behaviours or relationship quality). It is the performance of one person, not of a sales team or a firm, which the meta-analysis set aside. It is also not the same as the sales of a territory, which move with the potential of the territory and its accounts as well as with the person who works it.

Why do sales figures, manager ratings and self-ratings disagree?

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Because each sees a different part of the job. Verbeke et al.² note that “subjective and objective measures of job performance have been found non-exchangeable in multiple meta-analyses”, and, citing a 1999 meta-analysis by Rich and colleagues, they write that “a vast majority of the variants in managerial reports on sales performance are explained by factors other than objective sales productivity”. Managers’ ratings “may incorporate job relevant aspects not reflected in objective sales performance such as organizational citizenship behaviors”, and with self-ratings “the strength of the association may be higher due to common method bias”.

In their data the measure changed what predicted performance. When performance came from objective data, goal orientation predicted it more strongly than when it came from managers’ ratings, while the external environment and supervisory leadership predicted it less strongly. When salespeople rated themselves, dispositional traits and supervisory leadership became stronger predictors, which the authors say “possibly suggests a halo effect”. Identity, selling-related knowledge and goal orientation went the other way: they “have stronger relationships with sales performance when performance data are based on managerial reports”, and the authors suggest that managers may “appraise salespeople as more effective when salespeople have a stronger sense of self, possess more marketing insight”. The link between role ambiguity and performance also depended on how performance was measured.

Hunter and Perreault (2007)¹ add a reason why sales figures are not simply objective: “there are differences in territory and account potential unrelated to the efforts of the current sales representative”. Quotas can correct for part of that, but “Although quotas can be used to adjust quantitative measures and make them more objective, they are also imperfect”, and the firm they studied did not use them for this reason. Their own study relied on self-ratings: salespeople were asked to “rate how well you have performed relative to the average salesperson in similar selling situations”, because management released no sales figures for individual accounts and would not let the researchers contact customers. The territory essay treats potential and workload as part of the assignment itself.

Which drivers rank highest, and which lowest?

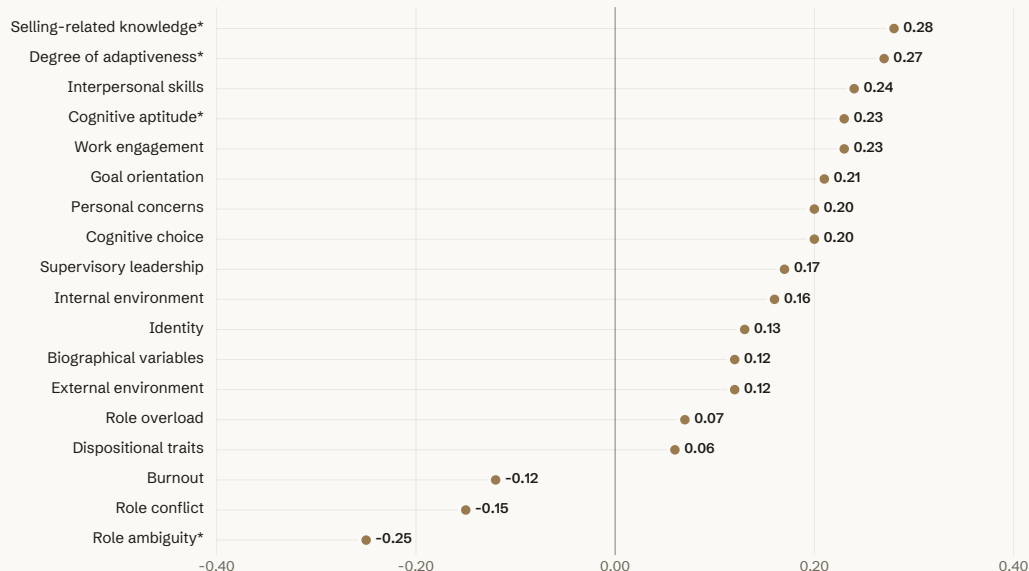
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Verbeke et al. (2011)² pooled studies from 1982 to 2008, the period after the meta-analysis that Churchill and colleagues published in 1985, which “covered the field of sales performance research from 1918 to 1982”. From 389 studies found, they kept 268, which “reported 292 samples, representing 79,747 salespeople from 4,317 organizations”, and sorted 2,105 correlations into 18 driver categories under six headings: role perceptions, aptitude, skill level, motivation, personal factors, and organisational and environmental factors. The averages used here, from the paper’s Table 2, are correlations between a driver category and performance, adjusted for the reliability of both measures and weighted by the size of each sample.

Four stood out: “For 4 out of 18 determinants, our bivariate data indicates significant antecedent-sales performance associations”. They are selling-related knowledge (.28), degree of adaptiveness (.27), role ambiguity (–.25) and cognitive aptitude (.23). Two of the four fall just short of a two-sided test at .05, as the note under Figure 1 explains. The weakest were dispositional traits such as extraversion (.06), role overload (.07), biographical variables such as age and sales experience (.12), the external environment (.12) and burnout (–.12). Interpersonal skills (.24) and work engagement (.23) averaged about as high as the four, but the table does not mark them as significant. Figure 1 shows all 18.

Figure 1 Average correlation of 18 driver categories with performance

Selling-related knowledge, adaptiveness, cognitive aptitude and, negatively, role ambiguity were marked significant. Several unmarked drivers average almost as high.



Values are mean correlations with sales performance, reliability-adjusted and sample-weighted. The 95 per cent intervals in Table 2 are wide: $-.01$ to $.67$ for selling-related knowledge, $.00$ to $.59$ for adaptiveness and $-.57$ to $-.01$ for role ambiguity. The z-values for the first two (1.92 and 1.95) fall short of the 1.96 that a two-sided test at $.05$ needs, so their asterisks match a one-sided test, which the paper does not state. Cognitive aptitude rests on 12 raw effects; the other categories on 22 to 255.

Source Verbeke et al. (2011), p. 415, Table 2, reliability-adjusted sample-weighted average r : 268 studies from 1982 to 2008, 2,043 raw effects; an asterisk marks the four that Table 2 marks significant at $p < .05$. It is not an experimental effect, not adjusted for the other drivers and not a share of variance.

The paper's Table 1 defines the leading categories. Selling-related knowledge is "The depth and width of the knowledge base that salespeople need to size up sales situations, classify prospects, and select appropriate sales strategies for clients", and it covers knowledge of products and of customers. Degree of adaptiveness is "The altering of sales behaviors during a customer interaction or across customer interactions based on perceived information about the nature of the selling situation". Role ambiguity is "Perceived lack of information to perform the job adequately and uncertainty about the expectations of different role set members", so its negative average means that salespeople who reported more ambiguity tended to show

lower performance. Cognitive aptitude is general mental ability, with verbal and quantitative ability.

Is a top-ranked driver a lever a manager can pull?

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Not on this evidence. Each figure is an average correlation across studies: it shows how closely a driver and performance went together, not that changing the driver changes performance. The authors are less cautious: they call their pooled regression a “multivariate causal model”, although they close by suggesting that future research on the knowledge-broker question take “an international, experimental and team perspective”. Even the largest average is modest: on this guide’s arithmetic, a correlation of .28 means the two share about 8 per cent of their variance. The averages are also uncertain and uneven. The intervals reported under Figure 1 are wide, the authors found that “significant variability across effect sizes exists for all 18 sub-categories”, and for cognitive aptitude “it is the smallest sub-category with only 12 correlations”.

The authors also fitted a regression to a pooled correlation matrix, restricted to relationships for which at least three intercorrelations were reported. Five drivers qualified, the four above and work engagement (.23); all five were significant, the model “predicts 32% of the variance in sales performance”, and the authors conclude that the five “have an independent predictive effect on sales performance”. This guide could not reconcile that model with the paper’s Table 3. The five coefficients in Table 4 equal the averages in Table 2 to two decimals, the reported R^2 of .320, labelled adjusted, equals the unadjusted sum of their squares, and the largest variance inflation factor is 1.008: all three are what a regression returns when the drivers are uncorrelated. Table 3, however, reports a correlation of .41 between cognitive aptitude and each of adaptiveness and selling-related knowledge. With a correlation of .41 between two of the drivers, no regression on that matrix can return a largest variance inflation factor below 1.20; fitted to Table 3, the same five drivers explain about 17 per cent of the variance, not 32. So this guide ranks the drivers by the averages in Table 2 and does not read them as independent effects.

The authors do draw managerial implications, and they are best read as the authors’ reasoning. Their “basic message for managers” is that selling-related knowledge can be trained, for instance by teaching salespeople to ask about customer needs; and “Since cognitive ability is a stable personality trait, the managerial implication is that firms will

most likely hire salespeople high on cognitive abilities.” They add that such abilities “should be complemented by other abilities, especially social skills”. The meta-analysis tested neither training nor hiring. What it does show is where the associations held: adaptiveness was “stable across nearly all moderating conditions”.

Have salespeople become knowledge brokers? § 5 of 8

The paper’s subtitle asks it, and its answer is a conjecture. Churchill and colleagues had ordered six broad categories by predictive validity: “role perceptions, skill levels, aptitude, motivation, personal characteristics, and organizational/environmental variables”. Verbeke et al.² report “a different ranking of the drivers of sales performance” and suggest it might be due to their finer categories. Their two leading drivers both sit inside the earlier skill category, since “selling-related knowledge and adaptive selling are sub-categories of Churchill’s skills category”, and they write that “the results of this study are not entirely different” from the earlier meta-analysis.

From there the authors take what they call a bird’s eye view of the data. In a knowledge-intensive economy, they argue, salespeople “must become knowledge brokers whose job it is to transfer knowledge about products to customers”, and they say that the finer categories, cognitive aptitude above all, “have inspired us to frame salespeople as knowledge brokers”. The abstract adds: “The results seem to back this supposition”. But the meta-analysis has no measure of knowledge brokering, and the authors “invite future researchers to operationalize knowledge brokering in sales and test the conjecture”. The comparison with the 1985 ranking is also a comparison between two meta-analyses with different category schemes, not a trend measured within one data set. On this guide’s reading, the ranking fits the idea and does not test it.

Which uses of sales technology go with better performance?

§ 6 of 8

Hunter and Perreault (2007)¹ studied salespeople in a firm where sales technology was already in place. How salespeople come to accept a tool, keep using it or reject it, and what the studies reviewed there found about their performance, is the subject of the [CRM adoption essay](#) and the [sales tooling review](#). This study asks a narrower question after adoption: which uses of the technology go with which aspect of performance. The sales force belonged to “a well-known consumer packaged goods company” and sold to retailers. “Of 196 questionnaires delivered, respondents returned 154 (79%)”, and 151 were usable, an effective response rate of 77 per cent.

The authors separate three uses of the technology: accessing, analysing and communicating information. They separate two aspects of performance: relationship-building performance with customers, “the extent to which the salesperson performs activities that cultivate a relationship that mutually benefits the selling and buying firms”, and administrative performance, the salesperson’s ability to complete required non-selling work on time, such as reports and paperwork. Between the two sit what they call relationship-forging tasks: sharing market knowledge with customers and proposing integrative solutions that benefit both firms.

The two tasks explained 57 per cent of the variance in relationship-building performance, with a larger path for sharing market knowledge (.47) than for proposing integrative solutions (.32). Using technology to analyse or to communicate information was positively related to both tasks, and so it “has mediated positive effects on a salesperson’s relationship-building performance with customers”. Using it to access information had a positive path to administrative performance (.24) and, in the model, no route to relationship-building performance: the authors fixed the paths from accessing to both tasks and to relationship-building performance at zero, and the modification indices for the two task paths (.03 and .20) did not suggest freeing them. That is the basis for their conclusion that “using technology for accessing information has no effect on relationship-building performance with customers”. On its own, accessing correlated .21 with relationship-building performance in their Table 2, close to analysing and communicating (.26 each), and .67 with analysing. Analysing information had a negative path to administrative performance (–.34), which the authors read as a possible conflict over the use of time. Hours worked had no significant effect on

relationship-building performance, and sales experience was related to administrative performance but not significantly to relationship-building.

Three things limit what this shows. First, the model let technology reach relationship-building performance only through the two tasks; the direct paths were fixed at zero by design (“This equates to constraining the value of these paths to zero in fitting the model.”), and the fit statistics did not argue against that structure. Second, every measure came from the salespeople themselves, in one survey of one firm; the authors report an analysis suggesting that common method bias did not drive the estimates, and they note that their host firm’s results may reflect best practice in sales technology “rather than what a start-up would experience”. Third, the efficiency argument the paper closes on is reasoning, not a result: “Gains in efficiency will have a net positive effect only if they free sales representatives from time spent on nonselling activities” and the freed time goes to relationship-forging tasks. The representatives studied spent two-thirds of their 47 weekly hours on things other than interacting with customers.

On this guide’s reading, the nearest thing to a measured knowledge-broker behaviour in the two sources is Hunter and Perreault’s¹ sharing market knowledge, the extent to which salespeople develop market expertise and share it with customers. It was the stronger of the two tasks there, but in one firm and on salespeople’s own ratings, so it illustrates the knowledge-broker conjecture rather than confirming it.

What should a team record before acting on a driver?

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Six things, one row per driver: what the driver is and how it is defined, which performance measure it was linked to and who supplied that measure, whether the evidence is a correlation or a tested change, whether the context matches (buyers, products, role), what in the result lies outside the salesperson’s control, and the test that would show whether acting on the driver changes performance. The fields follow Verbeke et al.²’s definitions and moderators and Hunter and Perreault’s¹ points on measurement; the test field is the step neither source took.

Figure 2 A driver claim record

Write down the driver, the measure, the evidence, the context, what lies outside the salesperson and the test before acting on a ranking.

Driver	Measure	Evidence	Context	Outside	Test
Which driver, defined how?	Sales data, manager or self-rating?	Correlation, or a tested change?	Same buyers, products and role?	Potential, accounts, leads, tools?	Which change, against which group?

Until the test column is filled, treat the driver as a hypothesis, not as a reason to hire or train.

One row per driver. Name the performance measure before the driver, because the measure changed which drivers predicted performance.

Source Author's decision worksheet. The driver field follows Verbeke et al. (2011), p. 409, Table 1; the measure and context fields follow Verbeke et al. (2011), pp. 415 to 417 and 419 to 420, and Hunter and Perreault (2007), pp. 19 and 30; the evidence field follows Verbeke et al. (2011), pp. 414, 418 and 425; the outside field follows Hunter and Perreault (2007), p. 30. The test field is the author's. The fields are reader inputs; no company data is supplied.

An illustration, with no company data: the sales leader of a B2B software firm reads that selling-related knowledge has the highest average correlation with performance and proposes a product and industry certification for every account executive. The record defines the driver as knowledge of the product and of how customers' buying groups decide. It names two measures, bookings against quota and the manager's quarterly rating, and notes that bookings also move with territory potential and inbound leads, while ratings can reward other things. It records the evidence as correlations from studies run between 1982 and 2008, and lists what lies outside the account executive: the potential of the accounts assigned, the leads routed to them and the tools they were given. The quota attainment essay separates those causes before a number is read as the rep's result. The test is to draw lots for which teams are certified first and compare the change in their bookings against quota and their manager ratings,

from the quarter before, with the change in teams certified two sales cycles later, over the same period. These are the author's examples and have not been tested.

Which questions do these two sources leave open?

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Several, and the authors name some of them. The meta-analysis is about individual salespeople, and the authors say their findings for selling-related knowledge and cognitive aptitude “should be interpreted with caution when applied to the aggregate analytical level of selling teams”. Research that uses relationship quality as the performance outcome “is extremely limited”. The 268 studies end in 2008, and the ranking compares categories that the authors coded, with checks between coders. Hunter and Perreault's¹ study is one firm, one survey and one kind of rater.

On this guide's reading, three points carry over to a software sales team with some confidence: name the performance measure before naming a driver, because the measure changed which drivers predicted performance; knowledge of products and customers, adaptiveness and clarity about the role are the associations to examine first; and, in the one source that separated uses, technology went with relationship-building performance through what salespeople did with it rather than through access to information, a structure the model assumed and the data did not contradict. What the sources cannot say is how large any of these effects is in a subscription business, whether training or hiring on a driver changes performance, or whether salespeople now work as knowledge brokers.

 End of essay

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