

UNLEASHING HIDDEN INSIGHTS

Business insights need to be extracted and prepared to have impact. **By Marco Vriens and Rogier Verhulst**



Why do insights matter and how can we think about this sometimes elusive concept? Insights matter because there is plenty of evidence that supports the contention that decisions informed by insights are better decisions and are more likely to lead to competitive advantage. In Grover and Vriens (2006), a distinction is made between insights that support a specific decision and insights that enhance our market understanding without necessarily immediately affecting a specific decision. The latter type of insight is more likely to structure thinking around the right market approach or strategy. Here we define an insight as:

A thought, fact, combination of facts, data and/or analysis of data that induces meaning and furthers understanding of a situation or issue that has the potential of benefiting the business or re-directing the thinking about that situation or issue which then in turn has the potential of benefiting the business.

The potential data that a business may have available has increased dramatically thanks to trends such as digital marketing, improved business intelligence tools, and integrated business functions. The explosion of quantitative data, such as survey data, customer interactions captured in internal databases, Web data, and data from external sources has had an impact as well.

However, more data creates more challenges and does not automatically mean more or better insights. As the potential of finding insights increases, it becomes harder to answer questions such as “What data or insights are most relevant?” and “What are the insights from the data that truly matter (to whom)?” Even if uncovered, many insights may simply not be known or accepted by the decision-makers or influencers who can use them. Our goal here is to give researchers and analysts a framework that can help with these challenges and can get people excited about this.

Extracting Insights from Data

We outline a semi-standardized approach that can win insights from available quantitative data. Exhibit 1 shows the components of this framework. If our approach is adopted by individual researchers or is adopted as a general recommended template by an insights department as a (semi-) standard approach, we believe it yields two benefits.

First of all, it reduces the likelihood of errors and improves the chances insights will be uncovered from the data available to the organization. Second, by reviewing the insights and proactively taking steps to remove the (potential) barriers,

we increase the chances that insights will be used properly and will make an impact.

In complex data environments, meaning we have many different data assets from which to draw, many insights are not going to be immediately obvious but will remain hidden unless analytically extracted. Also, insights can be found in more qualitative observations (e.g., qualitative research, consumer communities). Finally, insights can come from marketing people, salespeople, market researchers, or executives. These latter insights can be called the collective insights of an organization.

To get the most out of the data assets, we recommend using a consistent and rigorous set of questions. This starts with ensuring data quality. We have seen many customer databases that have missing data, incorrect entries, or duplications. Similarly, in surveys we often encounter missing data, incomplete surveys, and potential response biases. The goal in this first step is to help each researcher or analyst follow the same process to ensure our data is of sufficient quality by asking a number of key questions:

- Are the data clean (e.g., coded correctly)?
- Do we have missing data, and how? What is the extent of missing data and how do we plan to deal with this?
- How do the survey responses on our questions look?
- How are responses distributed across response categories?
- Should we expect response style biases and, if so, can we mitigate these?
- Is our sample representative to the target population?
- Should we apply a weighting scheme?
- Is our sample sufficiently large?

The above set of questions is not meant to be complete. The key here is that one decides on a standard set of questions that are consistently reviewed.

Reviewing data quality is a step that can easily be overlooked. In his book *Super Crunchers* (Bantam, 2007) Ayres gives an example of how an error in the coding can lead to a policy decision that is quite the opposite of what would have been recommended if the error had been fixed. We also know from the missing data literature that missing data can reduce the ability to find significant relationships in the data. The key here is that the answers to these questions need to lead to some type of corrective action if feasible. If not feasible, it should be noted.

The next step is applying basic analyses to understand initial relationships in the data. Viewed at the departmental

Executive Summary

As the potential for extracting insights increases, it becomes harder for businesses to determine which insights are most meaningful. Further, many insights may simply not be known or accepted by the decision-makers who can use them. Our goal here is to give researchers and insights departments a framework that will help with extracting insights and ensuring insights are prepared for decisions to be made and infused in discussions around business issues.

level, having a recommended process as shown in Exhibit 1 can prevent a researcher from assuming that nothing in the data is of interest or running inappropriate statistics and thereby missing important insights. The recommended standards questions here include:

- Should and can we recode categorical variables so as to better enable subsequent analyses?
- What are appropriate statistics and analyses given the measurement levels and the distribution of the variables?

After the basic analyses, we recommend leveraging multivariate approaches and answering some more key questions, such as:

- What do we want to achieve with the multivariate (advanced) analyses?
- What parts of what we want to achieve can be answered by basic analyses?
- Is there a conceptual model that outlines the analysis/modeling?
- What are relationships we expect and why? What are the measurement levels of the involved variables and what would be a good set of potential models/analyses approaches?
- Are there other aspects of the data that may have an impact on how we go about our analyses (missing data, multicollinearity, sample sizes etc.)? What statistical models seem most appropriate given the characteristics of the data? You can use the choice tree in Exhibit 2 as a cheat sheet or to guide you in the right direction. We do not pretend to offer a comprehensive set of models and techniques. The key insight here is that, given the characteristics of the data, some techniques or approaches may be more suitable than others and hence are more likely to uncover insights.
- Do we use a consistent modeling approach? This may be important when we deal with tracking data, and insights may be compared to insights from previous waves. Have

we tried several iterations? Optimizing models (and insights) requires search, evaluation and selection as often data can be analyzed and modeled in more than one way. Have we reviewed the analyses and/or models on face validity; counterintuitive signs; in-sample fit (explained variance, percentage of correctly predicted choices); replication correlation; triangulation; and, if feasible, out-of-sample fit or replication?

After this step, it is very tempting to stop. However, in our experience the researcher needs to ask if there could be even deeper insights. For example, could there be interaction effects or non-linear effects, and could we expect heterogeneity across respondents that we haven't accounted for? We recommend always doing this step, even if the previous step has led to solid insights. This step further reduces the chances that insights are left undiscovered.

Integration

Next we search for integrated insights by looking and integrating across different waves, different survey studies, internal customer data, and qualitative data. This step has three advantages. First, new insights can be found. Second, such new insights can, as mentioned earlier, be more hidden and be more strategic because competitors will be unlikely to have the same access to the multiple sources used. Third, it can make insights more compelling.

Integrating across different quantitative sources can be done in a number of ways. We can analyze at a single data set level and then compare findings and do a qualitative integration. Or we can approach the integration in a more quantitative fashion by using techniques in the data fusion space. Integrating qualitative insights can be done by reviewing qualitative reports around a specific topic, finding insights, and comparing these with the quantitative insights.

For other qualitative sources, this may be less straightforward. For example, researchers may face a large number of responses to an open-ended question or a dialogue around products or brands from online communities that needs to be reviewed. In other cases, customer complaints are being pulled in to the overall insights picture. In all of these cases, categorization of the responses can be applied to key groups (e.g., product quality, price,) and tools such as tag clouds can be used. Tag clouds provide a quick understanding of the key topics in unstructured data and help guide the insight discovery process. The Web site www.tagcrowd.com lets you create your own tag cloud by pasting the plain text of the text you want to visually represent into the window. Then the software creates the tag cloud for you.

The exercise of integrating the qualitative insights should be guided by asking a number of standard questions:

- Can we validate/invalidate the quantitative insights? Are there qualitative insights that seem to challenge quantitative insights?
- Do the qualitative insights identify issues that weren't apparent from the quantitative insights?

- Are there qualitative data points that would clarify the quantitative insights?
- Do the qualitative insights point to areas where we could dig deeper in the quantitative data? Does it provide directions on where and what to look for?

Several techniques can facilitate the process of integration of qualitatively and quantitatively generated insights. For example, we created an insights search engine, a dynamic database for insights. This database collects all of the insight garnered from any qualitative and quantitative project so it can be subjected to rigorous analysis to detect patterns between insights.

An Impact Capability

An individual and an insights department must support and promote acting on these insights in the right way. Unfortunately, this doesn't always happen. To remove potential barriers to adoption, we recommend always asking some key questions.

Do the decision-makers and influencers know and understand the relevant insights? An insight can only inform a decision if the insight is known by the decision-maker when the decision is being made. In our experience we find that marketing people often don't act on insights because they are too hard to find. On the other hand, information overload can be an obstacle: Business decision-makers are becoming overwhelmed by an increasing amount of market research and customer data. This results in ignoring the data and insights altogether or selectively picking some insights. Many times people act on mere anecdotal insights or insights that happen to be quickly available instead of reviewing a more comprehensive set of insights. Research and analytical departments often send out e-mails with links to lengthy PowerPoint presentations that make it hard to find or connect key insights. In our work we make insights available through a wide variety of channels and find it helps if the different channels have different purposes. In Exhibit 4 we show an example of the channels we used.

First, Exhibit 4 shows that initial awareness of insights can be driven by insight e-mails. Second, providing overviews of what there is and what is coming can further help in developing an initial level of awareness. Third, in case decision-makers and influencers want to delve deeper into the insights, it is useful to have an online portal where the decision-maker can quickly find relevant insights. Fourth, the use of marketing decision support tools can further enhance familiarity with and understanding of the insights.

For example, we built an insights search engine that enables decision-makers to quickly access insights around a certain topic. This engine started with the explicit activity of articulating the research-based insights and storing them. Next, our insights team kept adding to this database of insights and regularly reviewed what insights could be further contextualized or added to other insights in the database. This has additional advantages: The insights database can repre-

sent the organization's memory. This is important as turnover of key people often means losing explicit and tacit insights. Second, it really facilitates for what insights we have multiple sources to support it.

Fifth, we have organized "Insights Days" where an entire day is devoted to presenting and discussing insights with a broad group of people from different functions. This further supports a broader understanding and processing of insights and how these can be acted upon.

How credible are the insights? Credibility is a function of how well the insights are understood; the methodological rigor used to generate the insight; the degree to which insights are validated more broadly; and the degree to which the insights can be contextualized. Assuming we believe decision-makers understand the insights, then researchers should articulate the methodological rigor (or lack thereof) when communicating the insights.

We summarize the key methodological features and present some assessment as to what degree the results are valid within the context in which an organization needs to make a decision. The key is to communicate what steps have been taken to generate high-quality data and insights and point out the limitations of the insights. In almost all market and customer intelligence projects we often have to accept limitations (i.e., a low response rate, incomplete customer data). Hence, we need to spend some time thinking about to what degree the identified insights are more broadly confirmed or validated.

Exhibit 1 The I² framework

Data quality review	Ensuring quality data is used as the foundation to search for insights.
Basic analysis	Ensuring initial relationships are understood and can support more efficient choices in the multivariate modeling.
Multivariate analysis/modeling	Optimal predictive models require search, evaluation and selection.
Deep analysis	Digging for insights that do not appear after the application of standard multivariate approaches requires special analysis.
Integrating other insights	Integration of insights from other studies, including qualitative insights.
Interpretation and qualification	Interpret the results and distinguish between "proven" results and "tentative" results. Assessing what the insights mean.
Communication and learning	Insights need to be known and understood. Build understanding gradually and allow partners to be co-producers of the final insights.
Credibility and acceptance	Insights need to be accepted by decision-makers and influencers.
Guidance to act upon insights	Ensuring insights are used appropriately.

This is sometimes referred to as triangulation: How consistent or inconsistent are the insights with other insights? This can be done in more than one way.

For example, we review other existing studies and check whether or not similar insights have been found. In this stage we include as many studies as possible that could be relevant for the issue at hand. This should include both qualitative and quantitative insights and should even include intuition from managers and observations from customers or other sources (e.g., comments from salespeople, interactions in communities, user groups). We also include what we know about the market or about related markets.

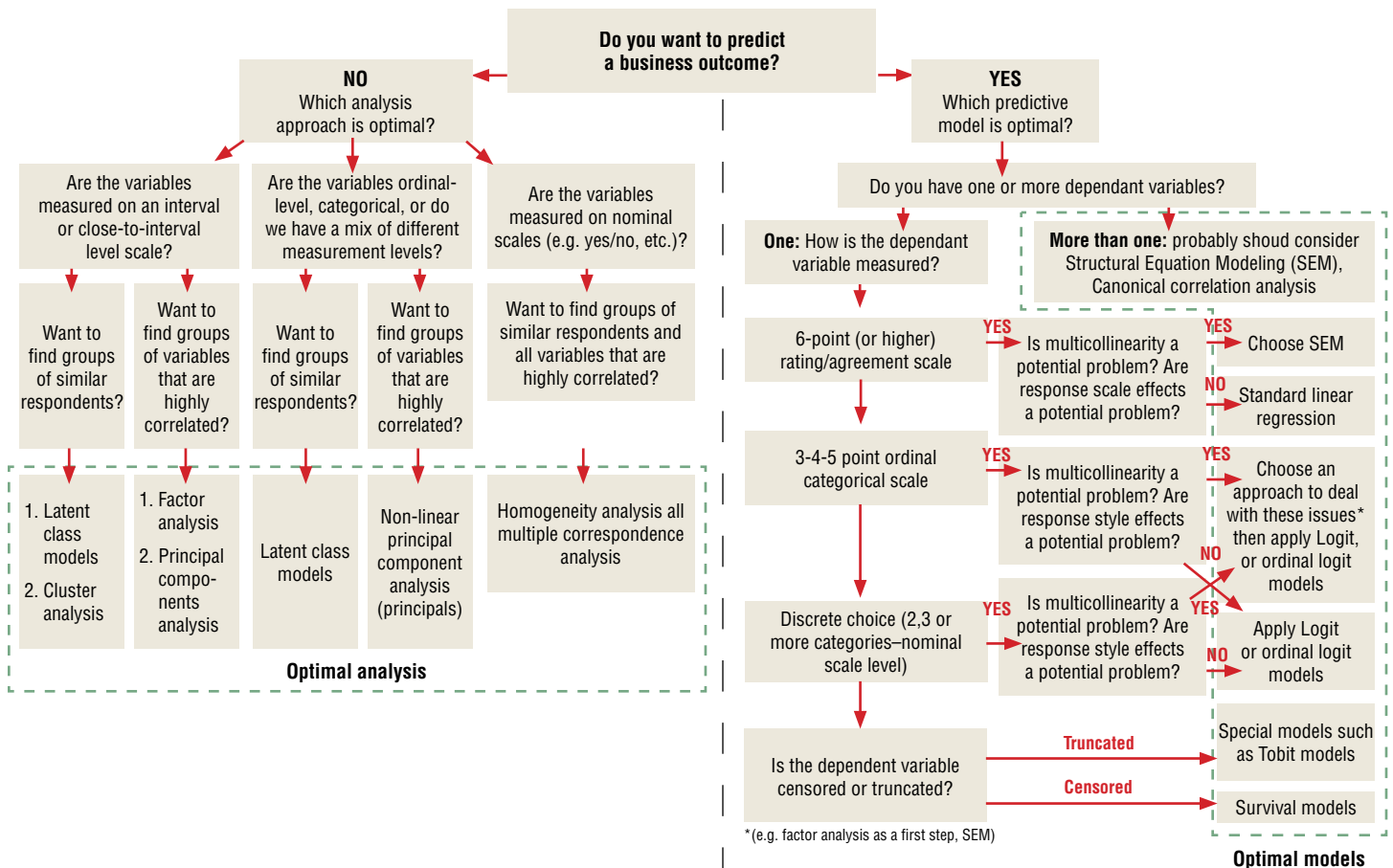
While reviewing, we start developing the context for the insights. If the insights we are trying to validate are connected to other insights, the combined connected set of insights is more believable and makes more sense than in each single insight alone. This leads to some judgment as to what extent are the insights credible. Summarizing this evidence will increase the likelihood that decision-makers will act upon the insights, especially in situations where the insights differ from the decision-makers' own internal mental model. Strategic insights often involve advanced analysis; hence it may be a challenge to build the right credibility for these insights. We often do this by presenting the insights in a simpler way. However,

caution is necessary as we need to simplify without losing the value or validity that the advanced analysis brought us. Again, also integrate such insights with other insights to build a comprehensive understanding and help create credibility.

Are the insights actionable? Timeliness is a factor when insights are meant to support a specific decision. Marketing/product managers and directors work on tight business schedules where decisions need to be made according to a certain work-back schedule. When supporting a specific decision, actionability is kind of baked in. If not, insights that improve broader understanding can sometimes be used to estimate the impact of a number of go-do alternatives and/or alternative strategies. This can help executives frame their decisions in a more objective way and hence allows the insights to have an impact. It is beyond the scope of this paper to fully discuss this – the authors can provide more information on this.

Are the insights accepted by the right people? It is feasible that insights are credible and actionable yet are not accepted. What then are the factors preventing the insights from being accepted? First, insights may lack acceptance because they don't support a decision-maker's individual agenda: Insights may be selectively used to rubber-stamp a particular program while ignoring other powerful customer insights that seem to undermine the decision-maker's personal agenda. Second,

Exhibit 2 Choice tree for finding modeling approaches



insights may not be accepted because they challenge an existing status quo or would require organizational changes. For example, if the organization just gave the green light to a big initiative and the insights don't seem to support it, then it's unlikely that the insights will alter the course of the ship (unless one can make an overwhelming case based on the insights, which we have never seen happen).

Third, it may be that insights are not directly rejected but are "discussed" in a meeting and then become "negotiated." We have seen this happen in meetings where insights are discussed and execs throw in their own "insights." This leads to a new insight that is really the result of an exec's own insights mixed with the presented insights. These two sources of insights need to be kept separate. Fourth, insights that challenge the gut feeling of a senior decision-maker tend to face more resistance and will take more effort to get accepted. In this case, it may help to involve a senior executive early on who can help deliver the insights. Making insights broadly available and known will also help in this area because the more people understand and internalize the insights, the more the insights will become embedded rather than just embodied. This makes it harder for a specific executive to just ignore them.

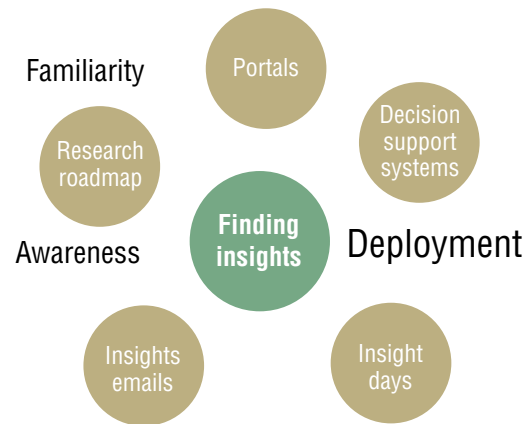
Do the decision-makers embed the insights in the right way into their decision-making process? Even when insights are accepted by decision-makers, we still need to provide guidance. First, acting on single insights without reviewing a broader set of insights should be discouraged. To avoid this, it's a good idea to embed the insights into a marketing decision support tool. If feasible, integrating insights into a tool that integrates the insights with financial data and/or internal company metrics can be very powerful. We developed a system where we integrated survey insights with internal customer data and financial data, allowing users to quickly review insights across 36-plus countries. The tool is now deployed worldwide, and data that previously went unused are now part of the organization's monthly rhythm-of-the-business process.

A second component of guidance is outlining the various gains and risks of actions that can be conceptualized from the insights. Third, guidance can also be given by creating predictions as to what the likely impact is of various alternatives based on the available insights. Effective predictions, like

Exhibit 3 Tag cloud: Who will rule the new internet?

accessible alliance andreessen announced apple
 applications apps build business closed code
 communicate company computer conference connect control
 create developers facebook friend google
 internet iphone kraus music networks open op-
 erating people phase platform popular possible runs
 says selling social system technology things think useful
 users ways web whose win year zuckerberg

Exhibit 4 Finding insights, acting on insights



in forecasting, "broadens your understanding by revealing overlooked possibilities and exposing unexamined assumptions regarding hoped for outcomes" (Saffo, *Harvard Business Review*, 2007). Fourth, if insights are being used to inform and drive the development of a marketing or business plan, it can be useful to have a closed-loop process: Start with reviewing the insights in the context of the marketing/business challenge. Let the marketing people subsequently put their plan together. Then close the loop by reviewing the proposed plan against the original set of insights and assess how the fit is.

We summarized some of our ideas here to help unleash hidden insights and turn them into a source of advantage in decision-making. This journey will not be easy because there are always lots of reasons not to set time apart to really look for and extract insights. This work requires some peace of mind and thinking time. Following the processes described here can help insight usage become more embedded as a standard practice. There are also always lots of reasons not to use insights: "Couldn't find them," "Didn't believe the insights," "No time," "Went against my gut," etc. Based on our experience, we believe that many of these barriers can be systematically removed. But businesses need to be aware of these barriers and explicitly analyze what needs to be done to knock them down. There is more to be said about how to think about insights and how to generate and use them. We look forward to the feedback from the marketing research community. Our ideas will be more extensively discussed in our upcoming book on insights. ●

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Additional Reading

Grover, R. and M. Vriens, eds (2006), *Handbook of Marketing Research*, Thousand Oaks, CA: Sage Publications.