Let’s say that, after an appendectomy, the patient comes back to his doctor complaining of a new pain. An X-ray is taken, and reveals a clamp that was left in the patient. We all know the rest of the story. When that claim comes to you, it may seem fairly straightforward, but in fact, you may not be getting the whole picture. If that patient has comorbidities like diabetes or hypertension (or both!), those may have a dramatic effect on claim cost, time to resolution, and the potential outcome. To discover those additional potential risk factors, you probably have to hunt down multiple pieces of supporting data and then manually bring it all together, so you have enough information needed to give your decision its full context.

Wouldn’t it be ideal if, instead of doing all of this time-consuming legwork yourself, all of that information—the accident, the patient’s history, comorbidities, anything else you need to make decisions—was collected via a software platform, analyzed, and delivered to you, along with a recommended action to take? That’s what business intelligence, or more specifically the intelligence embedded into the business process, can offer.

Business intelligence brings everything you need together

“Business intelligence” is a term that refers to a set of methodologies, processes, architectures, and technologies that transform raw data into actionable insights to enable more effective strategic, tactical, and operational decision making. These may include information about the incident, the patient’s medical history, and the comorbidities referenced above. The data, converted into an insight, is typically presented in a separate dashboard. The insight might say something like, “This claim is likely to be complex” and then suggest that you take a certain action based on the complexity level. This is clearly a tremendous improvement in terms of time savings and accuracy over the manual method that many companies still rely on, but a specific subset of business intelligence can deliver even greater impact: analytics that are embedded into your workflow and daily processes.

Within business intelligence (or BI), we have “embedded analytics,” which takes the capabilities of BI one step further, by bringing all of those insights and recommended actions into the application, claims, and/or other processes that you use at your company. Where traditional BI requires you to navigate to a new program like moving from Excel to a new BI application, thereby disrupting your workflow and wasting your time, embedded analytics reside within the application you’re using and deliver insights or recommendations to you at the point when you need to make the decision.

The capabilities of embedded analytics can be hard to grasp if you’re unfamiliar with it, just as a smartphone would be difficult to understand if all you knew were rotary phones. Essentially, embedded analytics can be deployed for any number of uses—from basic reporting to use cases that leverage machine learning and artificial intelligence to drive improved efficiency, reduced cost, increased profit, and greater customer satisfaction.

Embedded analytics makes your job easier

Sure, this may sound interesting to you, in a Silicon Valley sort of way, but how does it relate back to insurance? On the underwriting side of things, embedded analytics can collect data from third party data sources, combine this with what has been submitted to fill in any gaps, combine this...
data, and then automatically sort those submissions into specific categories and priorities. For example, embedded analytics can reveal the risk scores of each applicant, so instead of working off the applications in the order they were submitted (Figure 1), the underwriter and agent can better prioritize their workflow by focusing on those with lower risk scores first—without having to spend time on less profitable customers or look for additional data to make pricing decisions. This can significantly improve operational efficiency, profitability, and the overall customer experience.

**Figure 1**

![Image of a list of applicants with priority and risk scores]

Much as it did during the underwriting process, embedded analytics can help you better categorize and prioritize claims once they come in (Figure 2). To prioritize which claims to work on, embedded analytics can evaluate each claim, determine if the claim will be complex, have a high litigation potential, or is eligible for straight-through processing. Then, it ranks each claim in the queue as the next most important to work on.

**Figure 2**

![Image of a list of claims with priority and risk scores]
Another key capability is enabled by predictive models, which collect and process data, then use that data to predict a likely outcome based on past trends and experience with similar claims or situations. The end result is that the model “learns” that certain claims behave in a certain way, just as we all learn and expect a given outcome based on what’s specified in a claim. Once it’s embedded in the application, the model can immediately learn from the user’s actual behaviors and decisions, and then continuously improve its performance over time. As the model improves, it becomes more capable of automating decisions, like determining the types of claims that should be sent to experienced claims adjusters, and how to best handle subrogation. All of it can be automatically improved through a closed-loop feedback system. In fact, one report, by the technology consulting company Capgemini, found that automation, enabled through an embedded analytics platform, could potentially raise insurance revenue by $243 billion.

At the company level, embedded analytics would enable you to share data and insights across your network of agents and employees, regardless of how big that network of users is. Perhaps you initially plan to pilot embedded analytics with 12 users, and you quickly discover that it was tremendously useful and you’d like to scale up to reach more employees. Not a problem for modern embedded analytics system, which can scale from a few to thousands of users, all with the same robust functionalities built in such as custom and personalized reporting.

Conclusion
Based on everything that’s outlined above, you might think it’s difficult to actually use embedded analytics, or that this approach is really only for technical folks. Fortunately, that’s not the case. Embedded analytics is designed to be truly embedded into whatever programs your company uses, so it’s easy to take the data and insights you’re seeing and apply them to your work.

In an ideal world, you wouldn’t even know you’re using analytics, because it’s so intuitive and seamless that you feel like you’re just doing your job—except it’s gotten a lot easier to make accurate decisions when embedded analytics are providing embedded recommendations, based on your experience with similar situations.

Mark Rusch is with GoodData.

For related information, see www.gooddata.com.