

The Digital Insurer

# Achieving payback in insurance analytics



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# Analytics is well established in insurance, but business outcomes remain a challenge. How do insurers gain a better return on their analytics investments to attain high performance? Recent research from Accenture points the way.

Across virtually all industries, data is emerging as an important asset. Provided it can be analyzed rapidly and deeply enough, it holds out the promise of linking decision-making to reality rather than intuition, and opening up new ways to serve customers better.

As a sector, insurance faces a number of challenges. Like virtually every industry, insurers are being affected by globalization, which is heightening competitive pressures, and the realities of fast-moving technological change. In particular, the Internet has created a technology platform that sets new customer expectations for personalization and service—a challenge that is exacerbated by the explosion in mobile devices. Because today's consumers are always connected (through several devices, with mobile set to predominate), service providers must be prepared to interact with them via multiple channels. More important, insurers need to be able to deliver a consistent, personalized experience to their customers over whatever channels they care to use.

Constant connectivity and easy access to comparative information—combined with tough economic conditions—have also made today's consumers extremely price-sensitive.

For insurers, these generic trends translate into several specific challenges that data analytics could help overcome:

## The insurance value chain is under pressure.

In particular, agent-based carriers are losing share to direct carriers thanks to the increasing propensity of customers

to transact online. Analytics could help insurers understand in real time what their customers are doing across a multiplicity of channels, and respond accordingly. It can help identify and retain at-risk customers. Analytics also offers a way for agents and brokers to secure their place in the value chain as purveyors of tailored, valuable advice for what is, after all, a complex transaction.

## Carriers do not fully understand the impact of their marketing investments.

Over the past two decades, property and casualty insurers have doubled their marketing spend, from \$2 billion in 2000 to some \$4 billion in 2020—but they still do not understand fully the returns they receive. Analytics can help them understand the return on investment for each channel, thus potentially allowing them to reduce spend while increasing effectiveness.

## Carriers are slow to introduce new products and pricing models.

With multiple underwriting systems and code-intensive modeling processes, carriers can take months and even years to introduce new products. Customers, by contrast, are now demanding highly personalized products priced to suit changing needs—and are notably less loyal than ever before. Analytics can help to understand customer needs much faster, and could also play a role in speeding up product development.

Analytics can also be used to help insurers identify ideas for new products and services by looking at other financial services sectors and even other industries. It's all about gaining a 360-degree view of consumers in order to find the value proposition that will turn them into insurance customers.

## Carriers are experiencing material losses due to fraud.

With industry research suggesting that about 10 percent of all claims-related losses are fraudulent, and with fraud syndicates growing in sophistication, carriers need to improve their ability to detect fraud quickly.

No question, data analytics capabilities have huge potential for insurers. What's not so clear is how the insurance industry is faring when it comes to implementing analytics solutions—and to realizing genuine business benefits. The global Accenture Analytics in Action survey provides a snapshot of analytics in insurance today as compared with other industries, lists what the successes and challenges are, and suggests some ways forward.



# The analytics star is rising

## The resources and executive support are there, but the focus remains tactical rather than strategic.

Already, one in three insurers has the required human and technological resources needed for analytics, and is using analytics regularly with some success. This finding places insurance well ahead of the cross-industry average of 20 percent. Significantly, though, this good showing is qualified by the fact that insurers use analytics for tactical rather than strategic projects.

This finding is supported by the corresponding finding that places insurance as trailing the average when it comes to successful use of analytics as part of an integrated, enterprise-wide approach that is ingrained into the fabric of the company (see Figure 1).

Specifically, insurers are using analytics to drive decision-making in the following areas to a great or moderate extent: products and services (80 percent), customer retention and acquisition (77 percent), customer experience (73 percent), social media (50 percent) and marketing campaign effectiveness (37 percent). In these areas, insurers are receiving great or moderate tangible business outcomes as indicated in Figure 2.

On the positive side, it is clear that senior management within the sector is solidly behind data analytics—although slightly trailing the cross-sectoral average. Fifty-seven percent of senior insurance management is totally or highly committed to analytics and fact-based decision-making, as compared with 67 percent of the total sample. Indeed, four in five insurers (80 percent) have a designated person responsible for data strategy—substantially ahead of the total sample (66 percent). Seventy-five percent of insurers have had this chief data officer (or equivalent) for more than 12 months (as compared with 58 percent in the total sample).

Most significant of all, perhaps, the research clearly shows that most insurers are using analytics as a retrospective tool—44 percent are doing so, as opposed to the 23 percent using it predictively. These figures reverse the trend across all industries, which was 33 percent for predictive use and 29 percent for

retrospective (see Figure 3). Insurers are thus lagging other industries when it comes to the most valuable use of analytics, namely the ability to react to customer behavior in real time—a capability that is becoming critical as customers increasingly use mobile devices to transact and interact at times that suit them—and to make better decisions.

Only 17 percent of insurance respondents (versus 21 percent of the total sample) say that their area uses analytics very successfully “as part of an integrated enterprise-wide approach which is ingrained into the fabric of the company.” A much greater percentage (36 percent, compared with 20 percent of the global sample) say that while they have the requisite human and technology resources, their use of analytics is primarily tactical (see Figure 1).

Even more worrying, the research indicates that most insurance companies do not expect to change their use of analytics materially over the next year, specifically when it comes to acquiring advanced capabilities.

Taken together, these findings should serve as a caution for insurers: they simply may not be appreciating the real value of analytics and thus may be at risk of investing too little in the years ahead.

Based on its ongoing experience helping leading global insurers to improve their businesses, and its knowledge of the insurance industry, Accenture believes that insurers need to adopt a more sophisticated approach to analytics in order to cope with greater market volatility and complexity—and to see a return on their analytics investment. Insurers need to move from understanding what is going on to understanding why, the impact of trends, what is likely to come next—and what they should try to ensure happens. However, as the research shows, they are only at the beginning of this journey from descriptive to predictive analytics.

Figure 1: Insurance tends to trail other industries in the integrated, enterprise-wide use of analytics

Q: Which of the following statements best describes what you are currently doing with analytics in your own area of the business?

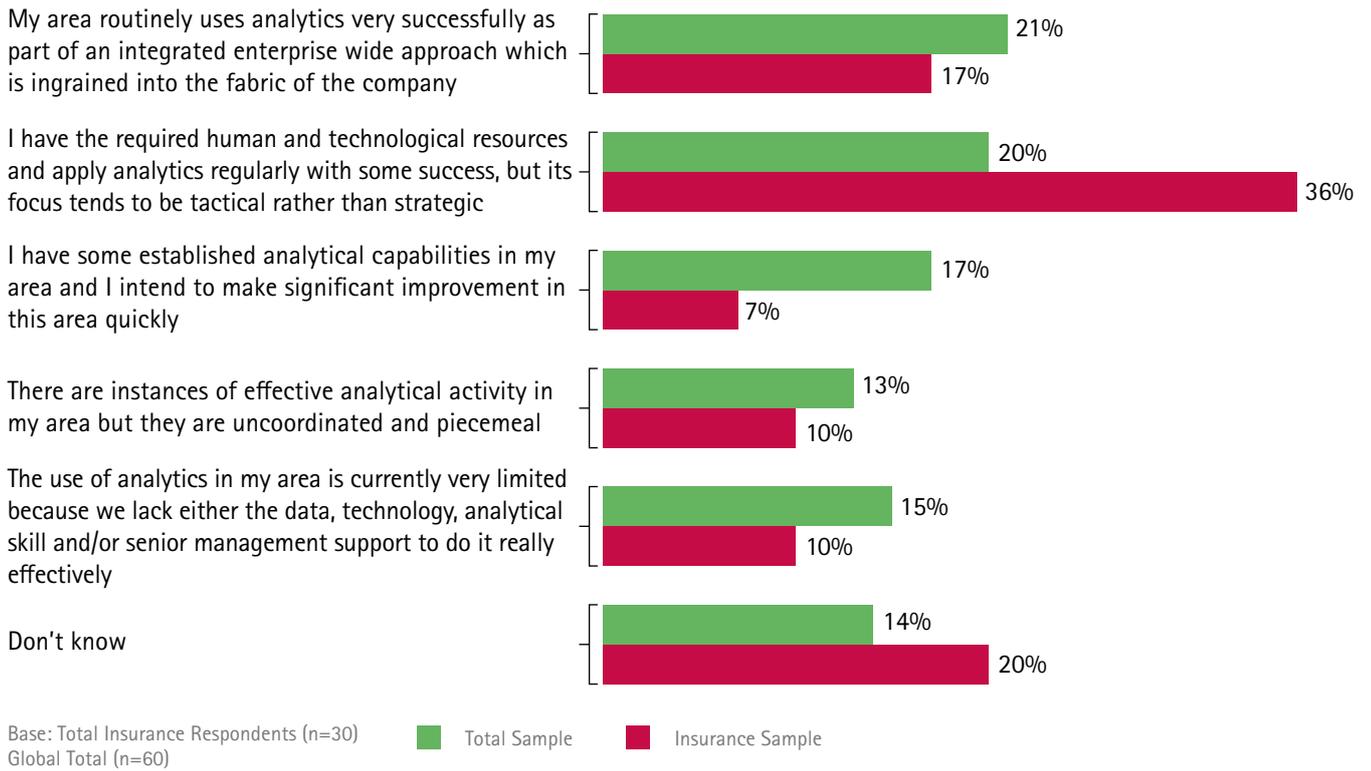
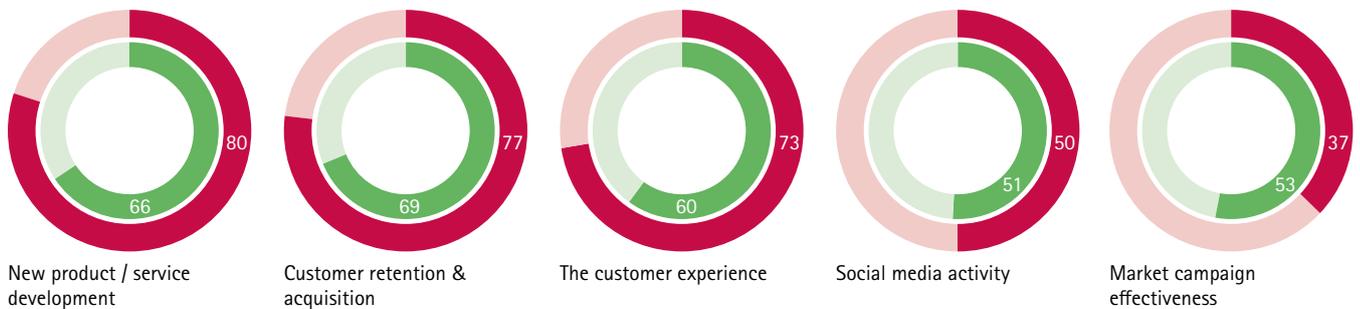
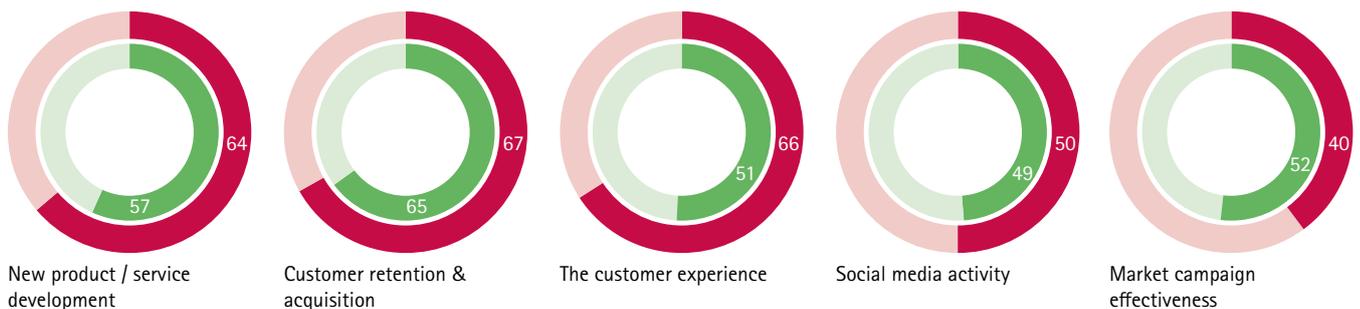


Figure 2: Insurance tends to trail other industries in the integrated, enterprise-wide use of analytics

Q: To what extent are you using analytics to drive decision making in the following areas?



Q: To what extent are you seeing tangible business benefits from using analytics in the following areas?

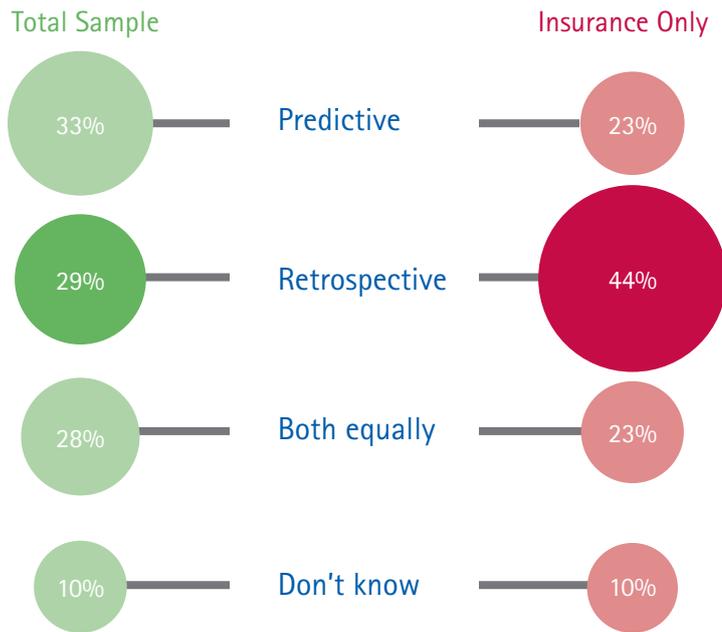


Percentage of respondents making "great" or "moderate" use of analytics, and achieving "great" or "moderate" benefits

Base: Total Insurance Respondents (n=30) Global Total (n=60)  
 Legend: Total Sample (Green), Insurance Sample (Red)

Figure 3: Most insurers are using analytics as a retrospective rather than a predictive tool.

Q: In general, and looking at the use of analytics across the entire organization, would you say it is primarily used as a predictive or a retrospective tool?



Base: Total Insurance Respondents (n=30)  
Global Total (n=60)

## The upside of analytics

Analytics has the potential to make a positive impact on virtually every aspect of the insurance life cycle.

### Product development.

Analytics can help insurers tap into the wisdom of crowds to develop new products that speak to genuine needs, and bring in new business.

### Claims management.

The general application of analytics, with particular focus on social networks and geospatial information, can help insurers reduce claims fraud.

### Marketing and distribution.

Real-time analytics and the use of sophisticated hypotheses bring one-to-one marketing at scale within reach.

### Performance management.

Combining what-if analytics, visualization and unstructured data, insurance carriers can develop easy-to-understand, actionable insights by role in order to make optimal use of scarce and expensive human capital.

### Pricing and underwriting.

The combination of telematics and analytics enables the customization of mass-market products like vehicle insurance and ancillary services.

In these and other areas, analytics confers on insurers the ability to improve underwriting, claims and distribution outcomes.

### Risk control.

Analytics has an obvious role to play in identifying potential losses and, more important, putting strategies in place to avoid them.

# Barriers to analytics

As noted above, while insurers as a group see the benefit of analytics and profess commitment to it, they tend to lag other industries both in their ambitions and capabilities in this area.

Several important barriers, real and conceptual, underpin this unsatisfactory state of affairs, preventing insurers from gaining a real return on their analytics investments.

## Resources.

For more than one half of respondents, technology resources and systems hinder the effective use of enterprise-wide analytics. Only one in three insurers says it has the right human and technology resources in place to use analytics regularly. A contributing problem is that traditional organizational and technical silos make it hard for insurers to obtain the enterprise-wide view and set of data they need for maximum benefit. Each silo within the company tends to use disparate tools.

## Culture and organization.

While the research does show that four in five insurers have appointed a designated person for data management strategy, C-level support is strong at 57 percent but lags the 67 percent across the global sample. It would appear, too, that this support is largely confined to the creation of an integrated data strategy involving suppliers, service providers and other partners. Leadership mainly supports analytics by using data to assess performance and identify growth opportunities. Overall, this constitutes a good beginning. Executive sponsorship of more sophisticated analytics needs to be obtained.

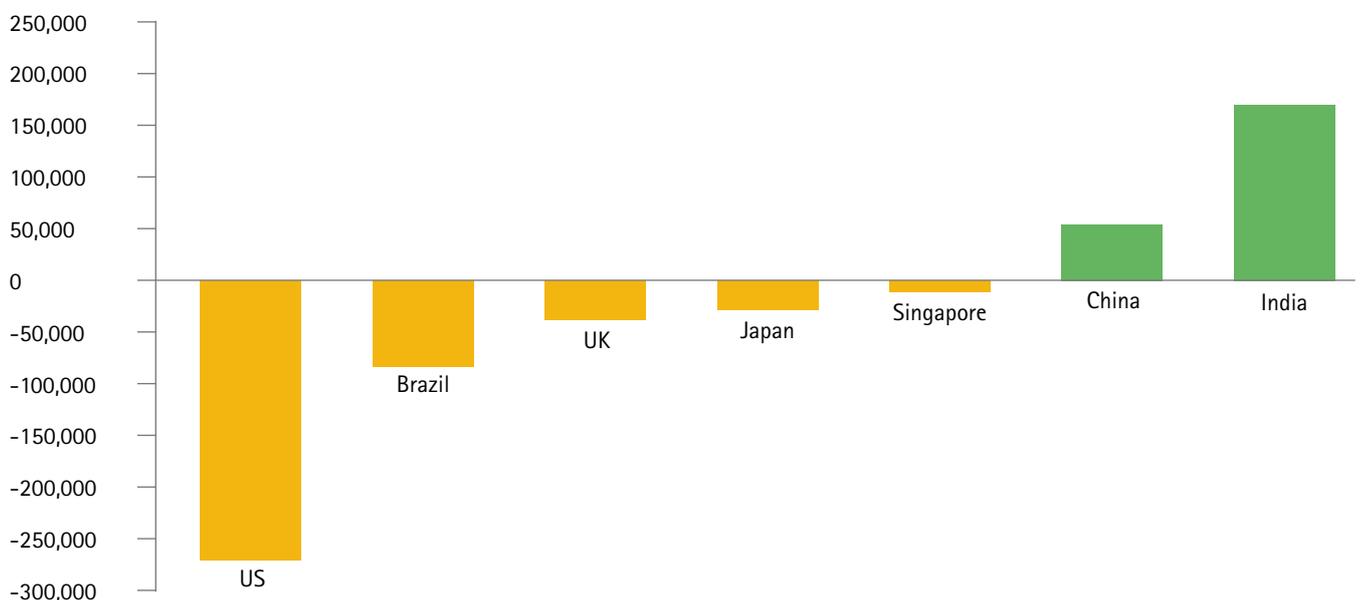
## Talent mismatch.

In general it seems clear that there is a critical mismatch between the supply of and demand for specialized analytics talent. Insurers will be competing not just with each other but with companies in other industries to access the analytics talent they need to turn analytics into a competitive differentiator and lever of business growth. Insurance workforces in the developed world are aging, and only 1 percent of university students are interested in pursuing careers in insurance. Much of the future analytics talent is likely to be located in developing markets like India and China, and it will likely lack insurance-specific skills. See Figure 4 for an indication of the global distribution of analytics talent for the period 2010-2015.

Figure 4: Total shortages and surpluses of analytics talent by country, 2010 to 2015

The shortfall of analysts in the US will exceed the surpluses expected in India and China combined.

Data is for all types of analytics talent across all industries within each country



Source: Accenture Institute for High Performance analysis.

■ Shortages of analytics talent

■ Surpluses of analytics talent

# Breakthrough factors for gaining a return on analytics investment

Insurers are already committing resources to analytics—but how can they begin to realize real return on their investments? Having sketched the barriers they face, Accenture suggests some critical success factors.

There is little doubt that analytics offers insurers a genuine opportunity to turn the terabytes of data (external and internal) they hold into real insights capable of delivering answers to business challenges. Overall, insurers should not lose sight of the fact that they already have much of the data they need in their own systems—the action point is to break down internal silos and make the data available to all. The good news is that analytics tools are getting better and better at finding this data (much of it unstructured).

One other general point cannot be overemphasized. The main barrier to obtaining a return on analytics investment is insurers' own lack of innovation, and their delay in creating an enterprise operating model that transcends function. Insurers need to think broadly and then develop ambitious programs that contain a mixture of immediate and longer-term gains. Such a mixture will not only build acceptance of the concept of analytics, but will also enable it to pay its way financially.

It's also worth mentioning that just as insurers' customers are basing their expectations on what is happening in other industries, so insurers should be looking beyond their industry peers to see how companies across multiple industries are positioning themselves to gain real payback from their analytics investment.

More specifically, in order to ensure that analytics delivers on its promise, insurers need to understand the implications of seven critical success factors.

These success factors are the product of Accenture's extensive experience in helping leading global insurance companies improve their businesses over the past several decades. This

sector-specific insight is complemented by its deep understanding of analytics theory and practice, combined with a close partnership with industry-leading technology vendors in this specialized area.

It will be apparent that these success factors are, to a greater or lesser extent, interdependent.

## Transform the operational model.

Insurance companies, along with their peers in the other financial services sectors, are prone to operate in organizational silos. However, the value of analytics lies in its ability to see the total picture. Breaking down the silo mentality will take a conscious effort, and must cover the domains of talent, technology architecture, governance and standards, and innovation.

## Integrate analytics into the business process.

A related point is that data scientists, technologists and business professionals must work together as a team from the inception of each project. Too often this is an afterthought, or at best forms part of the change management agenda. Such projects must be part of a consciously designed process to ensure that insight and business outcomes are integrated into the same business process.

Another way to integrate analytics into the business is to combine analytics with the traditional business intelligence dashboards that many levels of management already use. For example, analytics technology could be used to give

a manager the capability of reacting to information on his or her dashboard by testing scenarios.

## Build a solid business case.

There is considerable danger that analytics projects can be partly or wholly theoretical. As part of the process of transforming the operational model to gain an enterprise-wide view, and of integrating analytics into the business process, it is imperative that analytics projects are linked to solving business problems that have been identified by the business. For example, to take an extreme case, an analytics project to reduce claims fraud is more likely to generate a return on investment than one to analyze customer data just to see what trends emerge.

The opportunities for using analytics to make the business itself more effective should not be ignored. This type of approach is often easy to justify and relatively quick to implement—and can contribute greatly to building acceptance of analytics and generating returns.

## Implement an aggressive R&D/innovation agenda.

Insurers are not natural innovators and need to develop techniques for innovating much more rapidly. The new tools available for manipulating data enable rapid progress on analytics-based projects; what were once multi-million, multi-year projects can now be accomplished quickly. Projects that succeed or fail quickly will deliver results and speed up return on investment, preventing the commitment of time, money and resources to long-term projects that ultimately do not succeed.

In addition, insurers must learn how to partner with third parties such as Accenture or various academic institutions to develop new analytics-based projects. Given that analytics talent is in such short supply, accessing the right level of skills will in itself require some innovation. (See sidebar "Accenture and MIT alliance" for insight into one approach to spreading the innovation net widely.)

## Face up to the technology challenge.

Insurers face the challenge of legacy information technology and data. While progress in modernizing has been made in the past few years, more needs to be done. Insurers need to keep up the pressure to upgrade their systems and digitize both processes and data to make the best use of the analytics revolution.

Another facet of the technology challenge is the way insurers approach the growing number of specialized analytics tools. This is a very fast-moving environment, and insurers would be advised against entering into long-term contractual arrangements with vendors so they retain the freedom to use cutting-edge tools. In particular, it is clear that open source is a growing trend in this sector.

## Leverage big data.

Insurance data is largely unstructured, placing it at a disadvantage compared to, say, banking, whose data is largely structured. Still, better and better data tools are becoming available to help ensure that even this mass of unstructured data is accessible, meaningful and thus useful.

In general, insurers must begin to address the challenge of poor data infrastructure now to lay the foundation for future benefits.

Aside from the question of legacy data, insurers must also pay attention to the mass of external data that is now available—again, mostly in unstructured form. This big data includes material from social media sites, telematics and external data providers. However, as noted above, before looking at external data, insurers should ensure they are leveraging the data they already have effectively.

In particular, attention should be paid to ways in which the claims could benefit from big-data analytics.

## Initiate pilot projects to test concepts.

A final piece of advice is to avoid large projects that take many months or even years to come to fruition. Modern analytics tools enable projects to be launched quickly, and ones that fail to deliver results can be equally quickly abandoned. That way, time and money are not wasted and the overall analytics momentum is retained.

## Accenture and MIT alliance

A partnership designed to help business access analytics innovation that delivers results.

Accenture and the Operations Research Center at the Massachusetts Institute of Technology (MIT) have formed an alliance to help participating companies gain access to incomparable research capabilities and insight that they can, in turn, use to drive competitive advantage.

Accenture's role is to develop cutting-edge methodologies, tools and techniques in collaboration with MIT faculty. MIT will align its research agenda with industry-specific problems and publish its work in peer-reviewed journals. As part of this process, it will engage with industry leaders in business analytics and establish closer connections with the business world. Together, Accenture and MIT will develop commercial solutions to actual client needs.

For companies participating in this program, the benefits are manifold. Besides access to the research, they include the opportunity to access competitive intelligence and gain insight into current and next-generation best practice in analytics in order to address their business issues. It's also an opportunity for them to drive the direction of the research.

This alliance is focusing on two specific themes: decision science and big data.

# An opportunity for visionary insurers

For a number of reasons, insurers find themselves lagging behind other industries in the effective use of data analytics to drive business outcomes. While they do see the need to invest in analytics, they are typically focused on using it to understand the past rather than shape the future.

This situation creates an opportunity for far-sighted insurers to take a step back and assess the role that analytics and big data could play in helping them to improve the way they do business currently, and to identify new markets and opportunities as well. Drawing on its understanding of the dynamics of the insurance market, and especially the challenges insurance faces, Accenture has identified seven related critical success factors that will help insurers transform their approach to analytics. This transformation will help them realize better business outcomes from analytics and, ultimately, power their journey toward high performance.





## Author

Jim Kinzie is a managing director in Accenture's Insurance practice in North America, where he is the Insurance Analytics lead. During a career of more than 23 years, Kinzie has helped many leading insurance carriers develop analytics strategies that deliver business benefits, as well as other functional and organizational transformations. Although his focus is primarily on the property and casualty/ general insurance sector, with a strong emphasis on underwriting and claims management, he has also had extensive exposure to other major insurance types, among them life and annuity, health and disability.

## Contact

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For more information about analytics in insurance, please visit <http://www.accenture.com/us-en/consulting/analytics/insurance-analytics/Pages/index.aspx>.

## About the research

The 600 telephone interviews were undertaken during August and September 2012 with director-level executives and equivalent managers within 600 enterprise-level companies (1,000+ employees) located in the United Kingdom and United States who have knowledge of and/ or responsibility for analytics within their organization. Thirty of these companies were insurance carriers. Interviews were conducted with organizations from the public sector, financial services (including insurance), resources, communications and high tech, retail and manufacturing industry sectors.

## About the series

The Digital Insurer is an Accenture series that provides insights on how insurers can achieve high performance in the Digital Age. Digital is not simply a new distribution channel—it offers an entirely new way of doing business. Leading insurers are learning how to provide significantly easier access to a wider range of more relevant products and services at a lower cost. With these goals in mind, this series presents pragmatic and visionary discussions on analytics, back-office digitization, marketing, mobility, social media, cloud and more.

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## About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 293,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US\$28.6 billion for the fiscal year ended Aug. 31, 2013. Its home page is [www.accenture.com](http://www.accenture.com).

