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Shaping the Future of Insurance

By leveraging technology as a strategy

Shift Left Innovation in Underwriting

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Abstract

The insurance industry is staring at myriads of possibilities. Ever shifting and rapidly changing risk landscape itself is a stiff challenge that underwriters will have to play out-of-their-skin to deal with. The customer needs and preferences are shifting. The market is becoming more commoditized and demands more value-add services and options of ‘picking and choosing’ the relevant service.

There is an increased focus on digital interventions and newer technology to provide appropriate use-cases to align with the business goals and strategies.

Insurance underwriting is how insurance companies understand and model the risks they insure against. It is an interplay of people, processes, guidelines, and data that insurance companies orchestrate for prudent selection and pricing of risks. This model must operate in and react to the forces exerted by the insurance marketplace.

Four forces that usually influence an underwriter's operating environment and decision making are

- **Customer (or Broker)** that it services
- The **Risk** that it evaluates and prices
- The **Market** that represents the economy and competition
- The **Regulation** that it needs to comply with

Historically, any change in any of the above forces or vectors would result in a corresponding realignment of underwriting practices. These realignments, small and large, were addressed through initiatives such as changes in risk appetite, policy limits, and product rationalization. Today, they have transitioned into programs like technology modernization, process reengineering, or by introducing analytics in the underwriting processes. These adjustments helped insurance companies counter and shield against the impacts of these forces and keep up with the market demands and expectations.

Today, all four forces are adding unprecedented pressure to the underwriting environment and at the same time, making it highly complex and challenging. This trend was never seen before in the history of the insurance business.

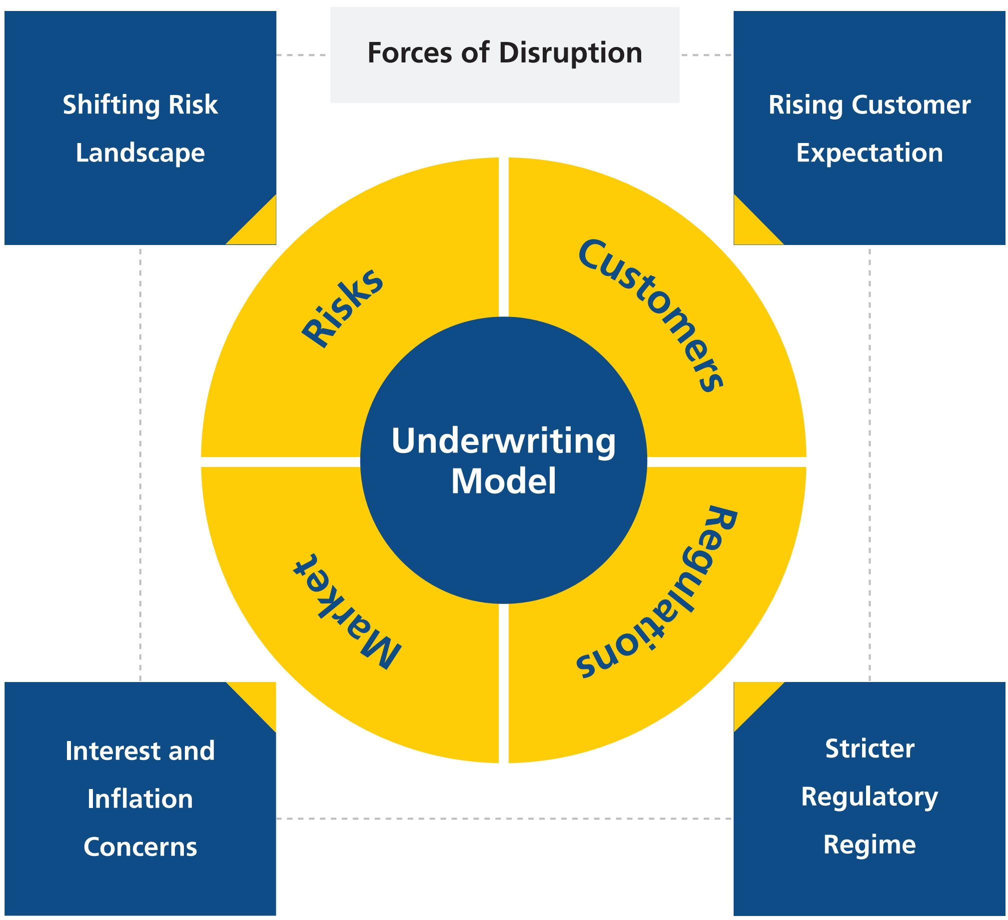

Figure 1: Forces impacting the underwriting environment

Source: LTIMindtree Insurance Strategy & Advisory

Shifting risk landscape

The climate, technological, geopolitical, and social factors are changing rapidly at an extraordinary pace. Insured industry's losses from catastrophe grew about 45% over the past two decades and continue to grow exponentially. 2020 set **a new annual record for catastrophic events, with 22 such events** in the United States, shattering the previous record of 16 that occurred in 2017. Explosive growth in cyber-attacks, rapid introduction of robotics across industries, the emergence of autonomous vehicles, shifting energy sources, supply chain disruption, an aging workforce, and a growing gig economy are just some of the other examples of a fast-changing risk landscape. These overwhelming shifts are a tremendous stress test for the insurance industry's underwriting skills and practices.

Rising customer expectations

As businesses go digital, customers are bound to compare their experience with an insurance company with that from other industries. These trends will challenge insurers to improve their underwriting efficiency, responsiveness, as well as the level of collaboration required to deliver a superior customer experience, all while not compromising on underwriting accuracy.

Evolving regulations

Regulators worldwide have explicitly stated that insurers' expectations of accountability and governance will continue to grow. Conventional areas such as product pricing, investments, solvency, insurance selling, financial reporting, etc., will be regulated more stringently and expanded to include new areas such as climate risk. These increasing regulatory pressures will significantly impact the underwriter's treatment of risks, product coverages, and pricing. In addition, with the increase in pandemic-related digital customer engagement, data privacy laws are being tightened by regulators and going forward, insurers will have to incorporate data governance in their underwriting operating models.

The market

We are living in a low-interest rate regime, meaning that insurance companies may not make enough returns from their investments and will therefore need to generate underwriting profits to meet their business targets. Furthermore, the pandemic-induced supply constraints, labor shortages, increasing demand, and rising crude prices are creating inflationary pressures, globally. **The annual inflation rate in the US, at 7% in Dec 2021, is at a 40-year high.** This rising inflation means higher costs for building materials, auto parts as well as labor, resulting in higher claims pay-outs for insurance companies. Medical and litigation costs that affect casualty segments, such as workers' compensation and other liability, are also impacted by inflation. The result, higher insurance rates, will make things difficult for underwriters to address, given competitive markets.

The forces collectively position traditional underwriting models toward imminent failure. Not addressing the consequential disruption could make an insurance company uncompetitive, unprofitable, and unsustainable. Underwriting models we have traditionally followed need a rethink based on data and technological advances, translating into an immense opportunity for underwriters to counter these external forces.

Technology enablers and opportunities are abundant, including open source and third-party data that underwriters can use to improve risk assessment. From government data, industry-specific data, climate data, and location data to company data, highly reliable and easily accessible data sources are here to help underwriters do better. Further, Artificial Intelligence and Machine Learning may soon become mainstream in the insurance industry, as accuracy rates of image recognition are already exceeding human performance.

Insurers must aggressively adopt new technologies and data sources for rigorous risk assessment, automate underwriting tasks and standardize underwriting decision-making. However, technology adoption alone may not be good enough. There is an equally urgent need to challenge traditional underwriting practices and processes.

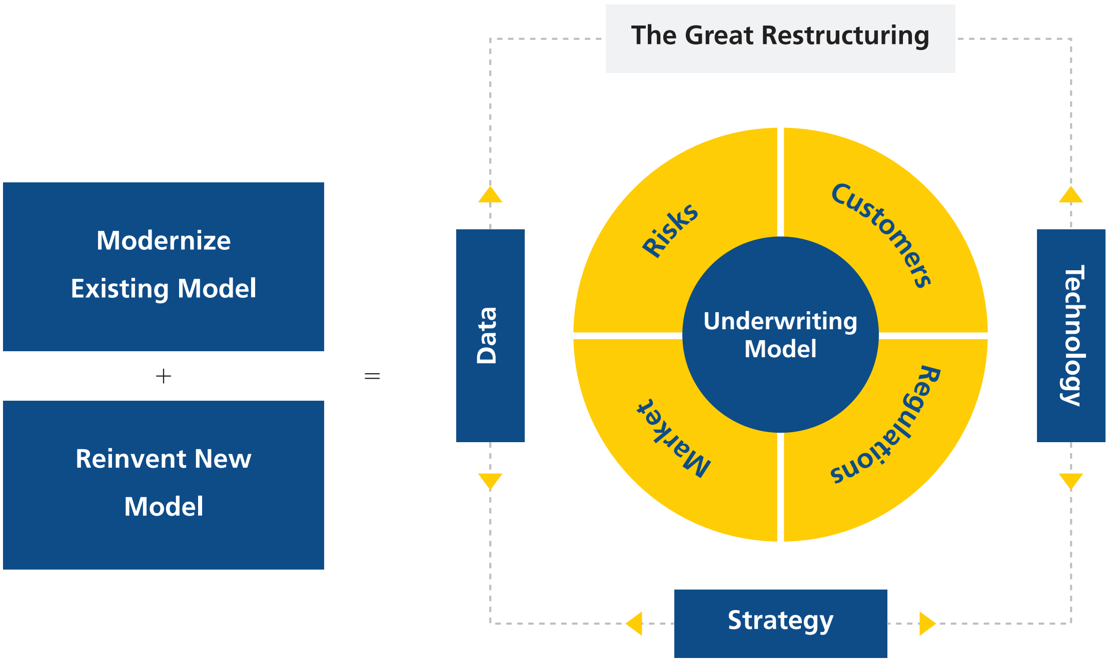

Figure 2: Modernize and reinvent the model

Source: LTIMindtree Insurance Strategy & Advisory

Therefore, the promise of digital underwriting as a way to thrive in response to the above disruptions remains clear. It will require much greater intervention and a radical shift in mindset. The situation demands a 'Great Restructuring of Underwriting' that will orchestrate an interplay of the underwriting environment with underlying technology and data, along with an overarching strategy.

01 | Modernize Existing Model: Shift to a Smarter Underwriting Model

Underwriters today spend up to 45% of their time on non-core activities that add little value to their customers. They must access anywhere between 20 to 40 systems, tools, and data sources to arrive at a decision. It's not surprising that the underwriting process is slow, and it takes weeks and sometimes even months to reach the finish line. Also, the decision is mostly intuition-driven rather than data-driven, making it error-prone.

Insurance companies' priority so far has been to transition from legacy policy administration to modern platforms, which takes several years of effort and a large budget. But as the industry has evolved its core policy systems, it's time to invest and make underwriting processes smarter and more efficient. The diagram below illustrates digital interventions, proven as well as potential, across the underwriting lifecycle.

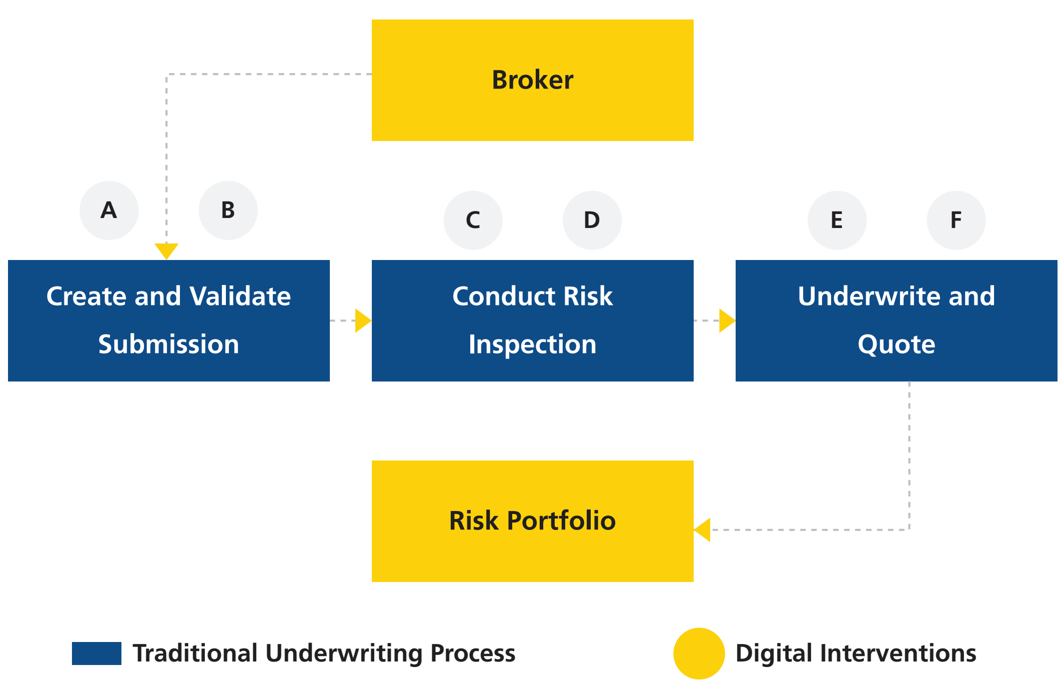

Figure 3: Digital interventions across underwriting lifecycle

Source: LTIMindtree Insurance Strategy & Advisory

These technologies and their applications in underwriting are described below

Create and Validate Submission	Conduct Risk Inspection	Underwrite and Quote
A. API Marketplace Open APIs that help brokers, customers, and other ecosystem partners to submit insurance applications and process quote & policy transactions.	**C. Aerial Imagery** Combine AI-driven computer vision and geospatial imagery for instant evaluation of property risk factors remotely.	**E. Risk Intelligence** Data analytics using a range of third-party data such as industry-specific data, location data, environment data, etc., along with the carrier's internal data, for risk scoring and evaluation.
B. Submission Data Extraction AI-enabled extraction of unstructured data from emails, submission documents, financial records, and other documents such as loss runs.	**D. Drone-based Inspection** Collect detailed images and videos of buildings, structures, and surroundings for risk assessment. Integrate AI for Object Recognition capabilities for appraising assets and risk analysis.	**F. Predictive Pricing** Leverage predictive analytical models for loss forecasting and dynamically adjust pricing based on risk quality. Upgrade to self-learning algorithms using Machine Learning for greater accuracy and reliability.

Table 1: Technology applications in underwriting

02 Reinvent New Model: Shift-Left Innovation Using Pre-Underwriting

Even in its modern avatar mentioned above, the traditional underwriting model has imperfections. Let's examine them.

With 75% contribution in the channel mix 1, the agency and broker market represent the dominating force in commercial insurance. Though a small commercial market is gradually moving towards direct distribution, the commercial insurance market has been a broker market and will remain so in the foreseeable future. The insurer is, therefore, mostly dependent on the broker for its growth and has little influence over the lead generation process. It would process the submissions provided by the broker through its underwriting process and accept or reject the risk based on its risk appetite and industry expertise.

Underwriters have little influence on the character and quality of the lead it is processing. The current underwriting approach is akin to having a shop in a market fair where you might get a lot of footfalls, but conversion is poor, leading to unpredictability and inefficiencies from an underwriting standpoint.

High cost of customer acquisition

Typical lead conversion ratio in Commercial Underwriting is about 10%. That is, the underwriters rigorously evaluate ten submissions to book one policy. That's not exactly efficient or productive, and unsurprisingly, customer acquisition cost, at USD 900 / customer, is the highest expense item for an insurance company. Additionally, the fact that the insurance industry is facing a severe crunch of underwriting talent compounds the problem.

Unpredictable loss performance

Underwriters' submissions provided by the brokers may not represent the areas of expertise that the company specializes in, resulting in poor and unpredictable loss performance. Consequently, variability of loss ratio across commercial insurers could be as high as 28%, whereas expense ratio varies by just 2 to 4 points, indicating that insurers have optimized their costs using automation and other levers, but not loss performance.

There is an obvious need to reinvent the underwriting process – the need for a strategy to proactively engage with your target market, understand their need, and service them. That's where pre-underwriting comes into play.

Pre-underwriting is identifying good risk profiles based on your past performance and proactively reaching out to the leads that fit into the profile with a pre-underwritten and maybe even a pre-priced insurance proposal. This approach is exactly the opposite of the traditional underwriting process. Instead of starting from the lead generated by the broker, the carrier starts by studying its risk portfolio, generates 'desirable' risks, and leads that are then routed to brokers for persuasion. Risk models vary significantly based on industry, region, client size, and product. And pre-underwriting helps you have the right strategy that aligns with the carrier's growth and profit strategy.

The pre-underwriting process and the role of technology are depicted below

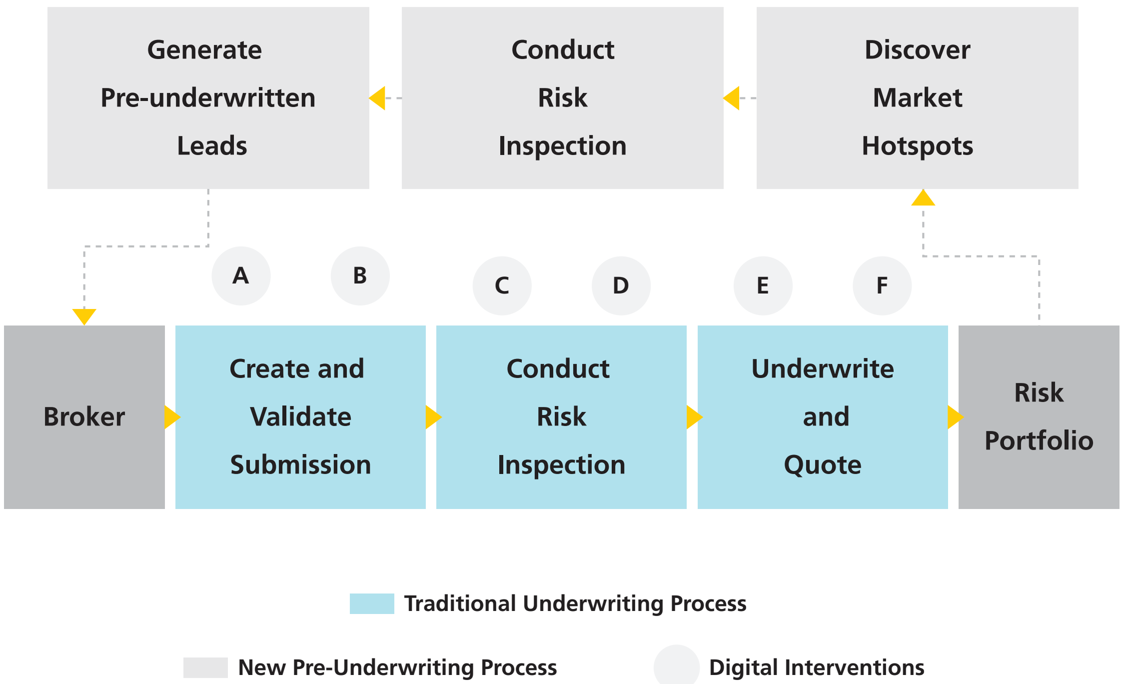

Figure 4: New pre-underwriting process

Source: LTIMindtree Insurance Strategy & Advisory

Discover Market Hotspots	Create Risk Strategy	Generate Pre-underwritten Leads
G. Portfolio Insights Classify and analyze the existing business book to identify profitable sweet spots with high win propensity and reduce risk accumulations.	**H. Risk Simulation Modelling** Simulate identified market hotspots with varied loss scenarios to identify desirable target risk and align to corporate strategy.	**I. 3rd Party Data Analytics** Use third-party data, such as business, climate, and location data, to identify leads that fit into the 'desirable risk' criteria. Leads are then mapped and routed to the right brokers.

Table 2: Technology applications in the pre-underwriting process

The benefits of this approach are obvious. Proactive risk selection can be a huge step towards profitable growth and can help in generating exponential value.

But is it unthinkable, or can Pre-underwriting be the new normal?

Underwriting has historically been slow to change. And pre-underwriting will be the biggest transformation that underwriters of today would have seen. So, making a drastic shift is easier said than done. It requires not only a change in business strategy and model but also a change in mindset and operating culture. Pre-underwriting also requires careful consideration for organizational change management. But given the unprecedented times, this change is inevitable, and it might be here sooner than we think.

To summarize, difficult times beget innovation. And the insurance industry is on the verge of an arduous crisis that could become unsurmountable if it does not transform its underwriting model. As depicted below, its ability to provide a stiff defense against the forces of disruption is currently very poor.

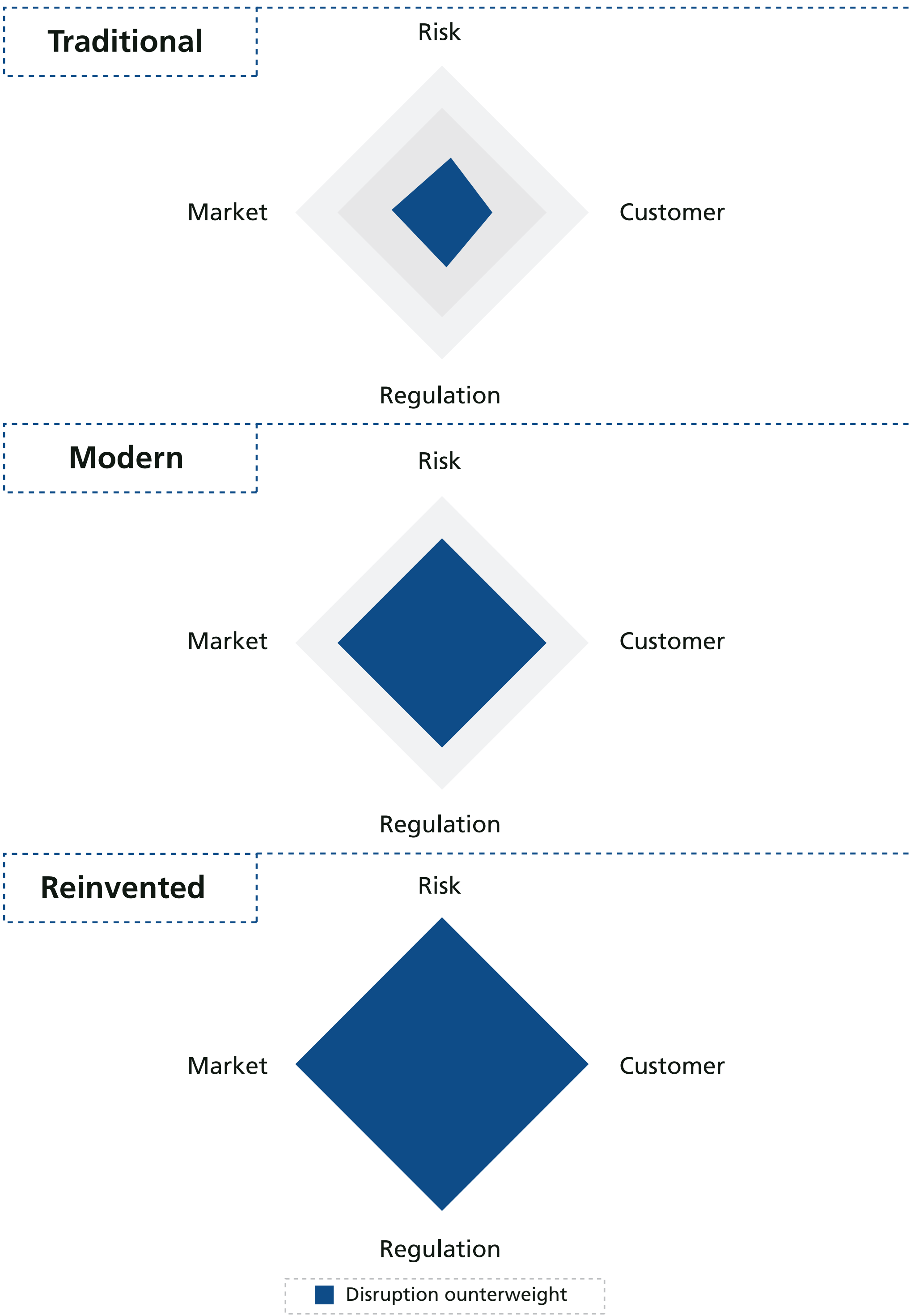

Figure 5: Underwriting disruption counterweight

Source: LTIMindtree Insurance Strategy & Advisory

It is fortunate, however, that we live in times when even unfathomable ideas can be realized using technology. Insurers should not miss this opportunity.

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About Author

Pankaj is a P&C Insurance Industry Business leader with 20+ years of experience and deep domain expertise in insurance and is part of LTIMindtree's Insurance Consulting Practice leadership team.

He is a thought leader with an in-depth understanding of the impact of emerging technological advances in the Insurance business and is a strong proponent of innovation, specifically cross-industry innovation.

He has worked on multiple complex transformational programs such as underwriting platform, policy administration system redesign, application rationalization roadmap, defining target operating model and defining business capability maps across the P&C Insurance value chain.

He is a Fellow in Insurance from III and- has a Bachelor's Degree in Engineering from the University of Mumbai

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About Author

Rithish is a seasoned insurance professional with 20+ years of experience in the ever-changing landscape of information technology. He is part of LTIMindtree's Insurance Consulting Practice leadership team and currently leads LTIMindtree's Duck Creek practice and has been instrumental in building the team from the ground up.

Rithish has vast experience working with insurance carriers across geographies with a major focus on the P&C Industry. He has been involved in multiple Business Transformation programs delivering value realization with measurable benefits. He has led multiple programs, both greenfield and brownfield Core Product implementation programs.

He holds a Bachelor's Degree in Science from the University of Mumbai, India.

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