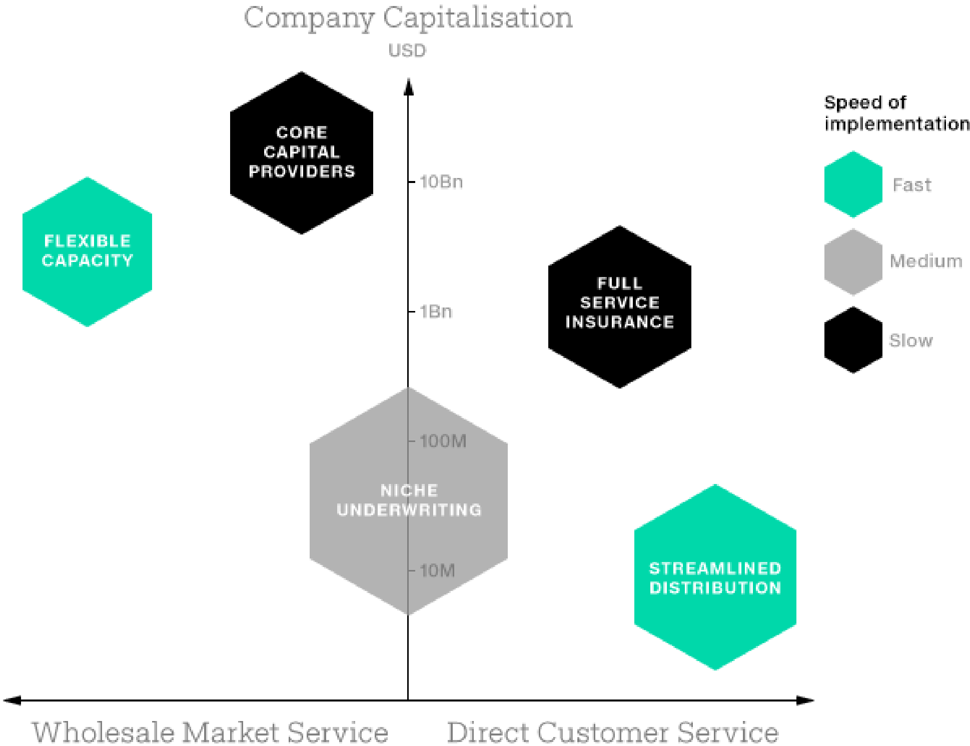
QuanTemplate

Insurance Models for the Technology Age

Against a backdrop of rapid technological change, record low fixed-income yields and perpetually softening insurance rates, it's no wonder that many insurance businesses are considering a change in strategy. Barely a week goes by without a new report warning of threats to traditional insurance business models and competitive pressures on the established insurance market hubs.

At QuanTemplate, we work with businesses across the market and have seen a diverse range of strategic models first-hand. Whether they are small teams focused on niche areas or large funds providing capital across the market, the companies best suited to prospering in the technology age have one thing in common: they have identified a segment of the market aligned to their client and capital constraints and focused their strategy accordingly.

In this report, we highlight five key strategies currently being adopted by successful insurance businesses. All of them touch on Lloyd's 'Vision 2025'[1] core topics: Distribution, Capital and Convergence, and Market Operations. These topics are not only relevant to Lloyds but to the health of the global insurance market.



1. Core Capital Providers

Value Proposition:

Large reinsurance firms provide capital to the wholesale market in the form of long-term reinsurance relationships. These businesses also offer clients access to capital markets by underwriting Insurance Linked Securities and other Alternative Risk Transfer services like whole account covers or retrospective reinsurance.

Capital Requirements:

Very significant capital is required ($10bn+) for this strategy and these funds must be fixed as these services equate to renting out ones balance sheet and the client base is particularly sensitive to credit rating fluctuations. The volume of premium required to maintain such a large capital base is only sustainable with strong long-term ceding company relationships. This sticky approach to providing reinsurance also requires sufficient resources to weather periods when pricing is below technical profitability.

Benefits:

Loyal cedants provide a reliable income. There is often an ongoing and complex flow of premium and claims settlements between the large capital-providing reinsurers and their clients which weds the parties through thick and thin.

In the BCG report "The London Insurance Market's Historic Role Faces a Tipping Point"[2] it was found that "London's expense ratios were 9% higher than that of its peers [Bermuda, Zurich, Singapore] in 2013". One solution to this problem is for these players to build a relationship with core capital providers who offer long-term capacity that can be delivered with proportionally lower operating costs as small teams underwrite a limited number of large rolling contracts.

Limitations:

Underwriting large whole-account reinsurance throughout the market cycle can result in technical accounts being marginal or unprofitable for extended soft periods.

Methods for Enhancement:

Such firms may need to reduce acquisition expenses to counter the increased technical cost of claims. Unlike underwriters operating lower down the capital structure, they can obtain a very large written premium from relationships with a relatively small number of ceding insurers. Accordingly the headcount required to maintain these relationships and to manage the account should proportionality be far lower than more transactional insurers.

Additional income (some of which is not correlated to insurance risk) can be made from direct investments. Often core capital providers possess an asymmetry of knowledge on the insurance market and can use this to make investments that outperform (e.g. taking equity as well as offering reinsurance capital to innovative insurers). The provision of data and technology to ceding clients is also a strong selling point for many core capital provider. This helps strengthen relationships with clients as they rely on the wider risk management services. Swiss Re is a good example. The firm provides clients with Sigma Research[3] and access to proprietary risk modelling tools such as CatNet[4] for natural hazards and Magnum[5] for life and health exposures.

2. Flexible Capacity

Value Proposition:

Firms with flexible capacity provide liquidity to underserved sections of the market, peak exposures and emerging risk classes. After more than a decade of average rate softening, it is easy to forget that insurance buyers have an inelastic demand (in so far as insurance is a prerequisite for most financing) so when capacity is scarce the ramifications are serious.

Traditionally, flexible capacity has gained market exposure through investments in high level Insurance Linked Securities (ILS) and collateralised reinsurance. As these instruments provide collateral to cover losses, the capacity provided did not incur the extra costs and complication of obtaining a credit rating or regulatory approval. In the wake of the large 2006 and 2007 hurricanes, a wave of 'sidecar' reinsurance vehicles were created to deliver capacity through whole account quota share reinsurance. The most recent development in flexible capacity has been the establishment of hedge fund-backed reinsurers looking to use technology to deploy capital more effectively lower down the risk structure. This can be seen in a statement by Brian Duperreault of Hamilton Re in an interview with Intelligent Insurer[6] : *'the true benefits of a technology-driven approach will be felt on the insurance side to a greater extent than on the reinsurance side. Being closer to the risk would benefit this approach'.*

For many opportunities, the carrier will have limited proprietary results on which to base their pricing decisions. Furthermore, securing inuring reinsurance is challenging as capacity for the exposures is in short supply and historic data limited. Accordingly the access to contingent capital is vital for successful solvency risk management. Companies that successfully employ this strategy benefit from express or implied guarantees from well capitalised parent companies. These are often hedge funds or diversified conglomerates with Berkshire Hathaway being the most prominent example.

Capital Requirements:

The received wisdom states that a new reinsurer requires $1bn+ of capital to secure an 'A-' or higher credit rating. This nimble strategy must be light on iron-clad underwriting restrictions as the attractive opportunities can appear in any sub-section of the market (see QuanTemplate report[7] on the market structure).

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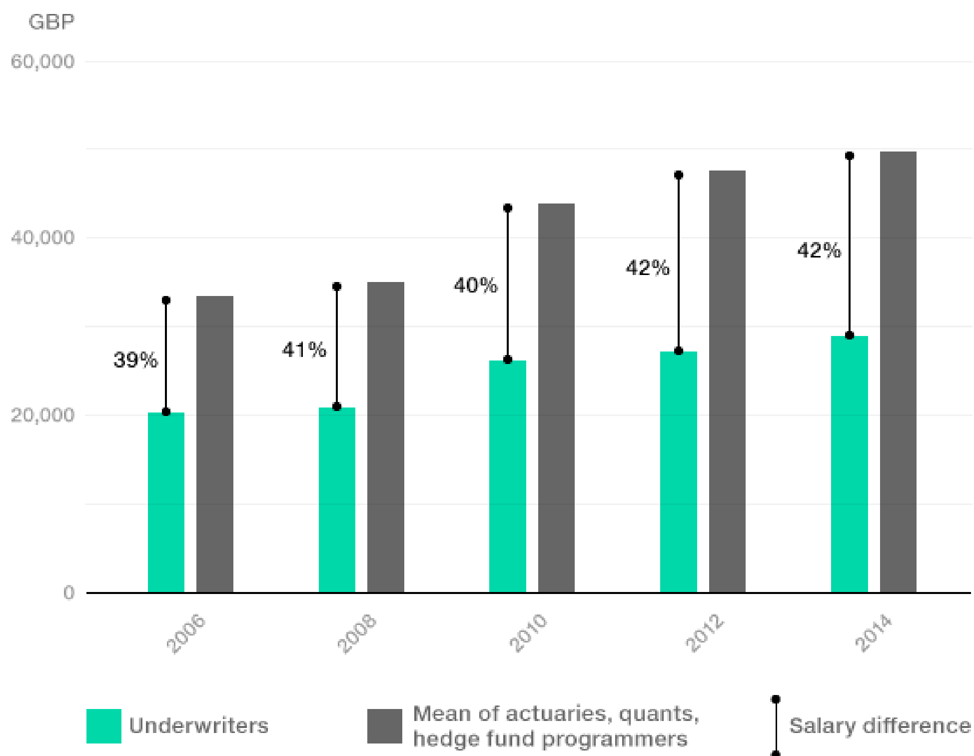
Benefits:

Firms with the flexibility to deploy capacity in well-priced insurance sectors (or even high-yielding alternative assets when attractive insurance deals are scarce) have the opportunity to outperform competitors that deliver consistent capacity throughout the cycle.

Limitations:

Per-unit underwriting and acquisition costs are high as only a very small proportion of reviewed risks will go on to be ‘bound’. Moreover, the cost of technology and quantitative staff is a material consideration as reinsurers will be recruiting from the same talent pool as hedge funds and investment banks in an environment where actuaries are in very short supply as a result of Solvency II.

Difference in average starting salaries by role:



Methods for Enhancement:

Brian Brian Duperreault summarises Hamilton Re’s priority to use technology to enhance underwriting: ‘[a quant driven insurance company] would use data management, data analytics and algorithms and apply this methodology to elements of insurance such as underwriting, claims management and other areas’. This requires technical infrastructure to receive, structure and model underwriting submissions with an integrated view on the capital impact of each deal. In order to assess new and emerging risk classes quantitatively, it is necessary to adapt proxy data, sourced from similar risk or asset categories.

3. Niche Underwriting

Value Proposition:

Smaller teams can apply specialist skills to the underwriting of niche risk categories. They add value by sourcing and selecting risks more effectively than less focused competitors. These skills can range from the application of proprietary pricing models or targeted marketing campaigns designed to attract choice business (e.g. DUAL successfully targeting the professional indemnity market). These ventures by their nature need to be highly focused on a specific customer base to avoid the dilution of their brand and reputation.

Capital Requirements:

This segment is best served by firms with small or medium capital ($10 - $500m) where capacity is provided by delegated authorities or substantial purchases of reinsurance. Stand-alone MGA's (as opposed to broker-held binding authorities) or small Lloyd's syndicates are the best vehicles for this strategy.

Benefits:

Specialist underwriting teams managing third-party capacity are specifically promoted by Lloyd's of London in their Strategy Report 2015-16: *'Many of the initiatives being pursued by the larger brokers reflect their desire to increase their efficiency and deal with a smaller number of carriers. Lloyd's can support this through the creation of efficient access to Lloyd's capacity eg through the creation of consortia'.* The creation of consortiums not only lowers the cost of broker placements but also rewards the skills of the underwriter delivering a non-risk bearing commission or management fee.

Limitations:

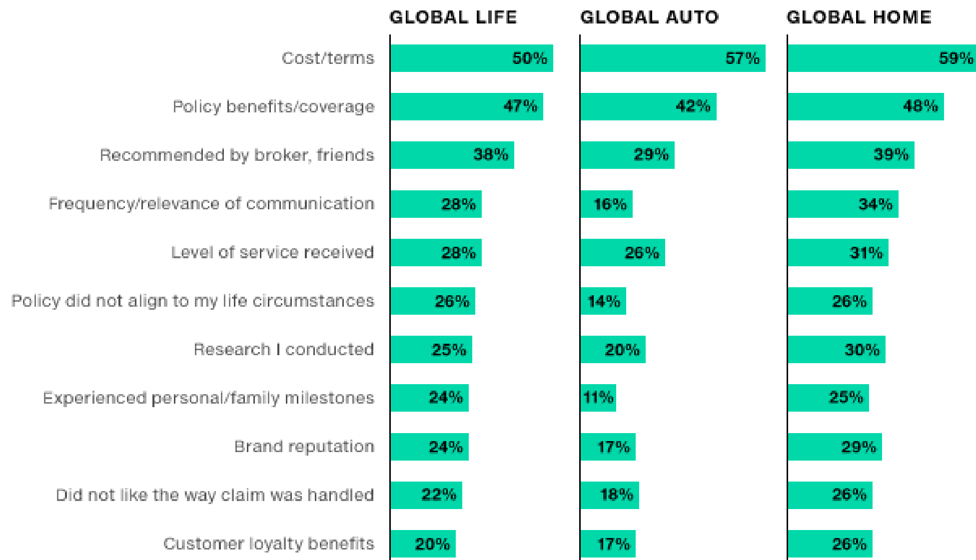
Niche underwriters require flexible capacity on pricing and terms. Marketing channels are built over years and reputations can be irrevocably damaged by withdrawing from a sector, even if technical rates become unprofitable. Securing and maintaining lenient capacity can be a tricky tightrope to walk as it brings to the fore the age-old agency challenge of balancing prudency in underwriting and the provision of good service to the customer.

Methods for Enhancement:

Technology and brand identity are the two most powerful tools available to the niche underwriter. Successful firms outperform their cohort on both fronts and this is how they secure capacity from would-be competitors. An example of innovative technology application is the US crop insurer, Climate Corporation. It developed a real-time weather forecasting system that could predict the probability of loss-causing events (i.e. hail or windstorm) to such a level of granularity that farmers could buy insurance for a single field even in view of a storm on the horizon. This level of customer service was unprecedented in the traditional crop insurance market, which meant that Climate Corporation rapidly gained market share.

4. Full Service Insurance

Top reasons for closing or replacing a policy



Source: EY, Reimagining customer relationships: key findings from the EY Global Consumer Insurance Survey 2014[8]

Value Proposition:

Many large insurance firms believe themselves to be 'full service' providers as they underwrite across all conventional business lines. However, it is possible to take the concept a few steps further. True full service insurance is about creating long-term, service-driven relationships with retail clients much like the retail banking industry. The value here is meeting the wider client needs in risk management and risk mitigation rather than purely in the delivery of capacity.

Capital Requirements:

Although the provision of full service insurance does not necessarily require a large balance sheet to accommodate peak commercial exposures, there is a significant cost in terms of technical infrastructure and customer service. For this reason most businesses that successfully employ the full service strategy have capital resources of over $1bn.

Benefits:

Delivering a high quality holistic service reduces the focus from a purely cost-based decision. Instead, the customers consider the full utility of the risk management service when determining the value of the offering. BCG's publication Perspectives In Insurance[9] highlights the New York-based health insurance service firm Oscar. *'With its Facebook-like features, Oscar's website has achieved a level of 'stickiness' that is rare in the insurance industry. Approximately 5 percent of Oscar's customers return to the site on a daily basis'.* When customers maintain their relationship with an insurance carrier for the long term, then risk-costing calculations can be set for similar durations. This allows firms like Oscar to sidestep some of the volatility in the market cycle.

Limitations:

As is evident from the EY satisfaction survey, cost and scope of coverage are the two most important factors for customers. For this reason, a full service insurer must deliver solutions for multiple lines of business and cover a broad section of insured types. This contradicts many 'selective underwriting' strategies where each risk is written or declined on its own merits. Accordingly, the insurer must be prepared to have a broad and inclusive approach to risk selection tailored to satisfy the coverage requirements of their target customer base. This may result in some under-performing parts of the account being subsidised by the wider portfolio.

Methods for Enhancement:

The tactics required for full service insurance are directly aligned with the desires of the retail insurance consumer. These fall into the categories of:

- Cost / coverage
- Claims handling
- Ease of communication

Each of these factors require integrated technology to enable the customer to find their solution, provide the underwriting information, receive the policy and make claims. As the second largest motor insurer in Australia, Suncorp saw an opportunity to integrate their various supply chains by working with entrepreneurs to improve the efficiency of process and the flow of information. Suncorp has built a nationwide repair network, that utilises data driven repair segmentation and advanced process technologies to reduce vehicle turnaround times by over 50% in some cases. By developing adjacent capability in parts supply and the distribution of repair information, and then linking these businesses together, Suncorp has improved the flow of information, capital and work through its supply chain, providing markedly better outcomes for customers and improved cost management for the insurance business. These benefits will continue to accrue as Suncorp deploys deeper IT integration and engages forward thinking technology partners to enable end to end frictionless service.

5. Streamlined distribution

Value Proposition:

The most prominent examples of streamlined insurance distribution are the online aggregators that have grown to dominate the British motor insurance market. The Actuary article 'Rise of the Motor Aggregators'[10] by George Maher and others at Towers Watson states that *'aggregators have commoditised the motor market. Where there was at best a tenuous relationship between the market structure and profitability prior to 2002, after 2002 as competition increased [driven by the entry of the first online aggregator], profitability decreased with a correlation of almost -96%. This is only natural as insurers are no longer competing on brand, marketing, service or other intangibles to the same extent; rather, they are competing almost solely on price and their position on the aggregators' screens.'* Although this seismic shift in control and profitability is of great concern to insurers, the vast majority of these cost savings have been passed directly to the consumer (Cost & Terms is by far the most important factor identified by Ernst & Young in their 2014 Global Consumer Insurance Survey[11]).

Capital Requirements:

Unlike underwriting risk, intermediation through aggregation is not a capital intensive business. There is a cost in software development, negotiating partnership deals and establishing a brand. It is estimated that $5 million would be the entry level capital required to create a streamlined distribution service. However there are significant ongoing costs in the form of advertising, software development and user experience improvements.

Benefits:

From the introduction of the mechanical loom on textiles to Uber's current disruption to the taxi sector, advances in technology have optimised many markets for the better, even if they have caused initial discomfort. The provision of insurance has no goods supplied at the point of sale, and limited unique services delivered in claim settlements. With this limited differentiation of each vendor's service, it is natural to assume the consumer will desire online aggregators to move up the value chain into the more complex commercial and specialty insurance markets. Simply Business is a pioneering example.

Limitations:

Without a capital 'barrier to entry', the aggregation space was is itself becoming increasingly competitive. The perpetual reinvestment of income into advertising initially leads to the service operating on thin margins but for the more leading UK motor aggregators who formed in the early 2000's their profit margins averaged 14% between 2010 and 2014. Although the commercial insurance sector is in the sights of the aggregators, there is much work required to harmonise the underlying data structures and communications systems before these more complex markets can move to more streamlined distribution models. However, with Lloyd's focus on Market Operations and the increasing number of technology products working to the Acord Standards[12], it is likely the infrastructure will be ready sooner than many would like.

Methods for Enhancement:

Like all consumer-facing businesses, the key to successful aggregation is building a defensible brand. David Jackson of Direct Line highlighted this in his Insurance Age article Get Into Aggregators[13]: 'The reason comparison sites have become so important in our market is that they do exactly what the customer needs them to do – make it easy and simple to buy insurance.' Although delivering a selection of alternative insurance coverage options and prices is their prime objective, aggregators can enhance utility with high-quality technology. This includes user experience improvements in mobile accessibility, and 'frictionless' payments, similar to those developed by the consumer website Amazon.

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