A cutting-edge survey by McKinsey & Company reveals which types of trading are most prevalent and successful among utilities. Using survey data, McKinsey's *Jörg Doege, Sven Heiligtag* and *Peter De Wit* suggest guidelines for creating successful trading and risk management functions

Measuring success

McKinsey & Company's Jörg Doege, Sven Heiligtag and Peter De Wit

★ While today's buoyant energy market conditions are generally good for the power and gas industry, the performance of individual organisations varies a great deal, a new survey by McKinsey & Company reveals.

Up until now, it has been difficult to compare different power and gas companies due to the lack of a common language. They may, for example, be active in different geographic markets, define activities differently, trade slightly different commodities or even use a business model that creates some competitive advantages, such as customer or asset flow. Many traders and trading organisations consider themselves to be high performers relative to their peers, since a comparison of different organisations is usually very difficult.

Through its survey, McKinsey set out to make such comparisons possible and allow an apple-to-apple comparison (see figures 1 and 2). The survey was jointly designed with three European power and gas players. The three players had a different business model and trading set-up in order to represent the three market categories identified in the survey – a pure trading house, and a large and a medium-sized utility. The detailed framing of the energy trading performance benchmarking was done with those three anchor participants from June to September 2006 based on several discussions and workshops with the various trading heads, the heads of business support and the head of risk management. Since a major focus of the benchmarking survey – next to the quantitative comparison – was also a detailed understanding of the underlying business models and set-up and their relation to performance, a close collaboration with the management board was a critical success factor as well.

Having set up the framework with the anchors, the survey was rolled out from October 2006 to February 2007 to other energy trading companies, most of them medium-sized utilities. The roll-out was conducted via a series of workshops with the trading and risk management heads, and one-on-one discussion for the quantitative and qualitative data collection. The most challenging part was the delineation between proprietary and asset-backed trading activities. Here market-neutrality conditions, that is, market-based transfer price mechanisms, the ability to measure risk and allocation to asset/hedge versus speculative/mark-to-market books were used as the differentiating criteria.

An additional challenge was the delineation of asset-backed and asset-hedging activities for integrated companies with only one overall profit and loss for generation and trading, and a detailed breakdown supported by McKinsey experts was required.

Tale of diversity

The first round of the survey revealed some surprising results. The most interesting in our view are the following:

• Energy trading activity is dominated by proprietary trading and asset-backed trading, with structured products and origination taking only a 5% share of trading activity. (see figure 3).

• Risk management capabilities frequently do not keep up with expanding trading activities (see figure 4).

• Trading-centred business models create much more value than the traditional utility-like business models.

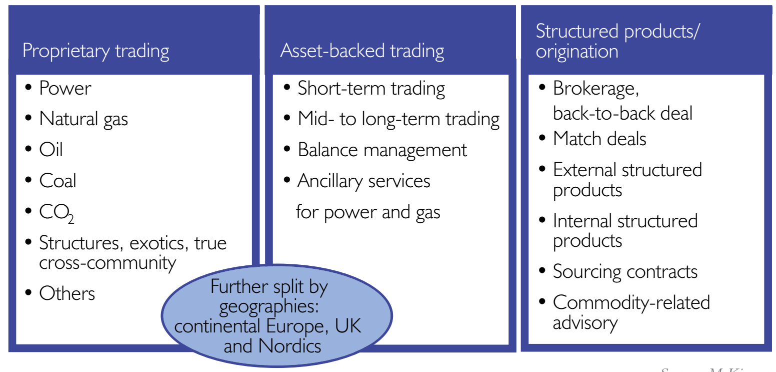
Proprietary and asset-backed trading dominate activity

At the top-line level, key performance indicators vary significantly both in absolute and relative terms. For example, the largest player in the sample netted more than €500 million in revenues produced by the trading team while the smallest player only recorded some €10 million. Likewise, productivity varies greatly: the best-performing players boast productivity significantly above €10 million in net revenues per trader, while less sophisticated players have a productivity that is roughly three times lower.

A closer look at the various trading activities paints a similar picture in terms of divergence in key performance indicators. Interestingly, most of the players focus on either asset-backed or proprietary trading, while structured products/origination is still a rare occurrence within the observed players. Remuneration levels for asset-backed and proprietary trading are very different. Companies that excel in both are those who have clearly separated these activities, thereby managing the inherent conflict in terms of skill set and trader remuneration schemes (see figure 3).

The maturity of proprietary trading instruments is also an excellent differentiator between asset-backed-focused and proprietary-focused players. Typically, proprietary-focused players have longer maturity contracts (more than six months) than those that are focused on asset-backed trading. A reason is that in financial contracts, the greatest leverage is in longer-term contracts due to the higher uncertainty involved. This higher level of risk requires a higher skill set, leading to the fact that primarily only proprietary traders trade actively long-term contracts. Contract types traded also differ between the two types of traders. While proprietary-focused players use all instruments, asset-backed traders mainly use futures contracts and avoid trading options and other non-linear products. Here, skill set also becomes a crucial point.

In business support, which in this instance refers to the middle and back office, the divergence is much narrower than that between different trading functions. Average business support costs per trader vary by only a factor of two. In this context, IT is by far the largest cost driver and shows by far the greatest variance between participants, mostly due to economies of scale, scope and sophistication of trading, and risk management activities.



Source: McKinsey

F1. McKinsey Energy Trading Survey – scope of trading activities
What commodities and geographies are included?

Risk management does not keep up with expanding trading

We also observed a large divergence in performance and sophistication in risk management and risk measurement across almost all dimensions, whereby only the most sophisticated and trading-oriented utility companies have 'adequate' capabilities. Measuring operational risk, using state-of the-art modelling techniques such as Monte Carlo simulations, capturing tail risk by applying measures such as conditional value-at-risk, and deriving and allocating risk limits to

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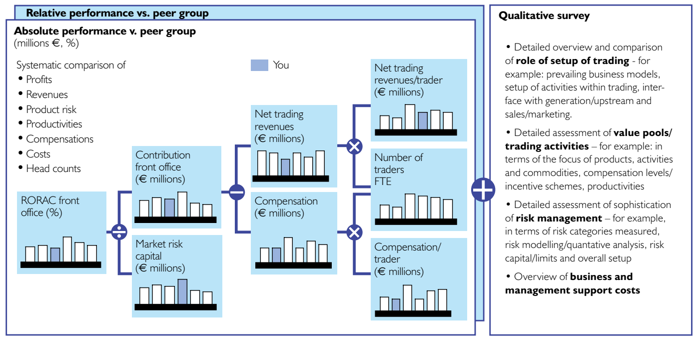
efficiently utilise risk capital, are still more the exception than the rule. Particularly with banks, less sophisticated players reveal large gaps that need to be closed, especially if trading activities continue to expand – as most players plan to do.

The biggest differences in sophistication become obvious when taking a closer look at the modelling techniques applied. Only half



Source: McKinsey Energy Trading Performance Benchmarking

F2. McKinsey energy trading survey – methodology

the participants use exponentially weighted moving average to model volatility or correlations, while the rest indicated that volatility of commodities is treated as constant over time. However, unlike many banking players, none of the participants uses approaches such as Arch or Garch to deal with stochastic volatility in the longer term. In addition, less than half the participants model spreads as a stochastic variable while the rest simply treat it as the difference of two commodity prices. Consequently, this results in mis-pricing of contracts, or mis-measuring of products, and certainly creates arbitrage opportunities for more sophisticated players.

The overall trading productivity for independent and integrated trading-focused companies is two to three times higher than for pure retail players

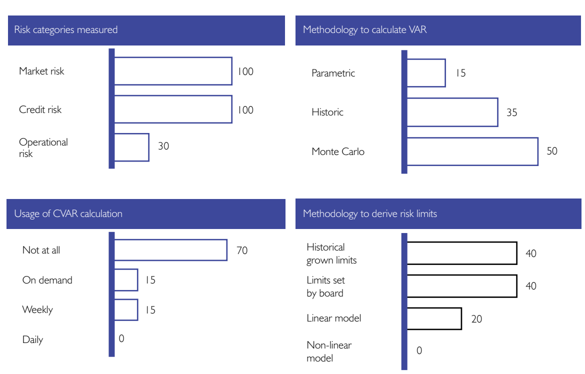
Trading-centred models create more value than traditional models

The fundamental differences in performance and sophistication are primarily explained by two elements of the underlying business model: the scope and set-up of the trading activities and the role of trading within the organisation. In this regard, four different business models were observed. These ranged from the traditional utility-like models in which retail or generation is the core activity to very advanced trading-focused models in which trading is responsible for the commercial optimisation across the entire value and consequently create more value out of their trading activities. They are:

• Retail-centred players who use generation and trading to satisfy the retail demand at any given point in time. They focus primarily on mitigating risk and hedging demand and only perform some short-term, asset-backed trading and little proprietary trading beyond this. Both types of trading activities are performed by the same traders/desks.

• Generation-centred players who use trading to physically optimise and market generation capacity. They focus on both hedging their assets and short-term, asset-backed trading but only do little proprietary trading beyond this. Both types of trading activities are performed by the same traders/desks.

• Independent trading-centred players who trade on top of their generation and retail business by leveraging market insights from their asset and customer base. These players can get their positions internally from the asset-base or externally from the market. They focus on proprietary trading, partially structured products/origination, and also frequently perform short-term, asset-backed trading. In this way, the inherent conflict



F3. Proprietary and asset-backed trading dominate activity *Source: McKinsey Energy Trading Performance Benchmarking* between asset-backed and proprietary trading activities is managed by clearly separating them.

• An integrated trading-focused model in which trading is responsible for the commercial optimisation across the entire value chain and portfolio. They participate in all asset/contract and retail activities from hedging in the medium to long term, short-term, asset-backed trading, as well as structured products/origination including procurement. The extent of proprietary trading activities depends on the overall risk appetite. However, certain activities are always performed to gain market access, conceal own-asset positions or generate market insights.

Opportunities to create value through sophisticated trading and risk management capabilities are high – when you do it right. The best-performing, trading-focused players are able to add significantly more than 50% on top of the intrinsic value of their generation portfolio compared with only up to 30% for the more classical utility-like players.

In general, the overall trading productivity for independent and integrated trading-focused companies is two to three times higher than for pure retail or even generation-focused players. Consequently, the latter companies are in high risk of losing not only market share but also their talent.

Implications

The energy trading performance benchmarking survey highlights many important questions that the players in this still relatively young industry are struggling with to define the future role and position of trading. In our view, three very important pieces of advice can be taken from the survey. They are:

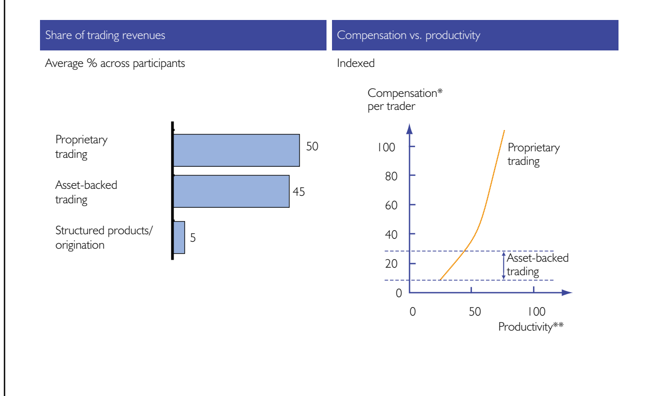
• Defining the role of trading. Define the ambition level with respect to the three key roles of trading, that is, optimising assets and portfolios through asset-backed trading; creating growth opportunities through proprietary trading; and creating growth opportunities through structured products/origination.

• Designing the trading function. Choose the organisational design with respect to: the organisational set-up of trading within the group and the corresponding interfaces with generation and sales; and the organisational set-up within the trading unit itself, for example, front, middle and back office.

• Assessing the gap in capabilities/resources and choosing the path to success. Understand the gap in terms of: skills, for example, trading, risk management and IT; performance management, for example, remuneration levels and incentive schemes; and systems, tools and processes. It then needs to be decided whether to implement the first two points above in a big bang or a sequential approach and whether it should be done organically or through joint ventures/acquisitions.

In answering these questions, players need to understand that trading involves risk-taking and that, consequently, activities should only be expanded after the corresponding risk management capabilities have been developed and not the other way around.

Given the great enthusiasm and feedback in the first round, the energy trading survey is being rolled out for the second round. In addition to the power and gas players that were the focus in the first round, we are planning to include players from both the financial community and the US in the second round. ER



F4. Risk management capabilities frequently do not keep up with expanding trading activities

*** Including fiexed compensation and bonus payments**

**** Net trading revenues per trader**

Source: McKinsey Energy Trading Performance Benchmarking

For further information, or to participate in the second round of the survey, please contact:

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