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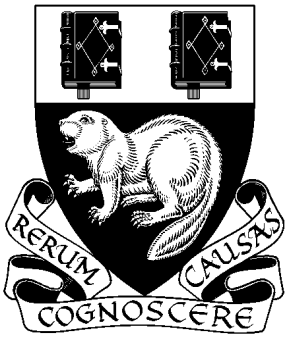


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**"The Development of Electronic Trading in the Futures Industry: Strategic Risk Positioning in a Globalising Age"**

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# THE DEVELOPMENT OF ELECTRONIC TRADING IN THE FUTURES INDUSTRY: STRATEGIC RISK POSITIONING IN A GLOBALISING AGE

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## ABSTRACT

Contemporary political, economic and social conditions heighten the demand placed upon organizations to create strategy designed to manage uncertainty. It is suggested that a broader analytical repertoire may support development of insight into the nature and speed of change during turbulent phases of IT-enabled modernization. We present empirical data from a two-year research project studying strategic responses to the competitive emergence of electronic trading at the major international financial futures exchanges (1998-2000). The term 'strategic risk positioning' is used as a central organizing concept to draw together an analysis of the subjective time-risk relationships influencing strategy formation during this period. We begin by examining how different interpretations of urgency and uncertainty can help us understand the co-existence of multiple strategies during times of change. We suggest that both researchers and practitioners need to give increased attention to the way that information media fuels the adjustment of meaning given to significant events in contemporary society. A heightened sense of an uncertain future shapes the strategic imagination and triggers processes of risk positioning. In conclusion, the potential side effects of strategic risk positioning activities like hedging, betting and reinvention for the next phase of development in the financial futures industry are discussed.

**Keywords: interpretive research, strategy, strategic position, risk, time, information and communication technologies, media, electronic trading, financial services.**

## 1. INTRODUCTION

Academics and practitioners are currently wrestling with the complex implications of globalization for strategy, and an integral part of this process involves understanding the role that information and communication technologies (ICTs) might play. In highly competitive industries, it is crucial to understand the nature and speed of IT-enabled change to exploit opportunities for innovation and manage potential threats. In this paper we present the findings from a research project in the financial services sector documenting the IT-enabled transformation of the futures industry. We introduce and build the notion of 'strategic risk positioning' in order to explore how market participants responded to the competitive surge toward electronic trading in the international financial futures markets (1998-2000). We use this term as an organizing concept to communicate characteristics of contemporary strategy formulation revealed in our study and highlight their potential role in shaping IT-enabled modernization processes.

The futures industry is an interesting part of the financial world to study, revealing many of the most potent features of globalization: time/space compression fuelled by use of ICTs; uncertainty and complexity; the intensification of relationships between global and local (Giddens 1990; Robinson 1992). Futures exchanges are at the edge of the world capitalist system, and their users are attributed with 'moving the lever that moves the world' (Wolfe in Boden 2000). The risk management services that they support are centered upon increasingly abstract, informational products derived from the cash markets. They trade 'promises' to buy or sell at a future time based upon reflexively constituted and rapidly changing knowledge about the present.

Information and communication technologies instantly connect market participants to exchanges in a range of time zones and plug them into an array of simultaneous data services. They also invisibly support the 'entanglement' of social networks engaged in an irreducibly interactional process of sense-making that shape market intelligence (Callon 1998). The rationality or irrationality of markets has formed the focus of extensive debate (Tversky and Kahneman 1981, 1986, 1992; Tversky 1990). Technical, rational metrics (like operational risk, credit risk, value-at-risk) form the basis of professional trading, however market players also acknowledge that they depend upon socio-political networks to make sense of strategic uncertainty.

In the pursuit of risk management, traders routinely reach out to historically liquid exchanges; this is where sellers can be assured that they will find buyers (vice versa) and discover the going market price for a product. Moving liquidity from one market to another has always been a theoretical possibility; the technology and business models for electronic trading were actively explored from the 1970s onward. However, in practice, once liquidity has been established in a particular market location a complex gossamer web stubbornly holds it there, even in the face of highly competitive alternatives.

This research study documents the previously unimaginable: the flight of a key benchmark product from the floor of a major international marketplace (LIFFE) to the electronic trading platform of a competitor (DTB/EUREX). Information and communication technologies are important enablers of electronic trading strategies, however, they are not neutral resources; their design is a reflection of entangled interests and their implication can have significant consequences. The choices and decisions to invest in a given technology provide the frame for dynamics of learning, accumulation and interdependencies (Miller 1991, 1997, 1998). These have the potential to create unequal development influencing subsequent phases of change. The consequences of the competitive emergence of electronic trading in key international futures markets have been profound. Many

physical market*places* are gone: large numbers of traders and the majority of exchange staff lost their jobs; city centre buildings are being leased out. The hum of computers and the tap of keyboards are finding their place alongside noisy physical trading in amphitheatre-like 'pits', full of traders clad in brightly coloured jackets. For some electronic trading is the 'brave new world' (Futures Industry 1998), for others it brings the threat of disintermediation and a need for radical revision of corporate strategy.

We sought to develop a theoretical perspective that would help us understand the emergence of 'e-strategies' at major international financial futures exchanges. We felt that academic literatures on time and risk offered analytical insights into prominent themes in the data. In choosing to bring temporality to the foreground we are pushing against the tide of literature that privileges issues of space/place (see for example, Gell 1992; Harvey 2000). We recognize that space issues are not separate from time (Harvey 1986) however, for the purposes of analysis, we allow them to linger at low volume as closely interconnected but implicit assumptions. Our choice here reflects something of an industry preoccupation: derivatives products are designed to rationally manage risky futures and expire at a given time. When market participants trade, their primary concern is not so much geographical location, but whether or not trading conditions are liquid enough to fix a particular price in time to cover a designated risk position.

Electronic trading seemed to creep up upon key executives and the majority of the membership of major international financial futures exchanges. On the surface, there seemed to be a sudden competitive scramble and widespread confusion regarding the trajectory of the industry. The potent combination of urgency *and* strategic uncertainty inspired us to connect our studies of time with literatures on risk. Again, this seemed to have considerable support from those familiar with the markets, like Peter Bernstein:

> 'Risk and time are opposite sides of the same coin, for if there were no tomorrow there would be no risk. Time transforms risk, and the nature of risk is shaped by the time horizon'.
>
> (Bernstein 1996)

Proximity makes threats real, however it is important to move our strategic thinking beyond local events and recognize the way in which globalization can potentially reconfigure relationships over time and space. Risks can now transcend time and space, making them more menacing in nature and the timeframe in which organizations must respond more uncertain. The conditions of globalization heighten the demand placed upon us to actively manage our relationships to uncertainty. In the rest of the paper we develop the term 'strategic risk positioning' (SRP) and use it to reveal these distinctive time-risk dynamics texturing the context of contemporary strategy formulation.

The next section provides a description of the methodology used in this research project. This is followed by a substantial section that positions our approach in the context of other academic debates in this area and discusses the theoretical foundations underpinning the notion of 'strategic risk positioning'. The empirical material is then presented as a case study documenting the surge in interest surrounding electronic trading between 1998-2000 in the major international financial futures exchange.

The analysis section begins with a definition and discussion of our central organizing construct 'strategic risk positioning'. We suggest that managers may benefit from systematic analysis of subjective time-risk relationships as part of the portfolio of skills they use for managing in uncertain times. The rest of the analysis section is divided up into four sub-sections organized around the key

tenets of SRP, which are used to communicate key findings from our electronic trading study. In the sixth and final section of the paper we discuss the potential side effects of activities like hedging, betting and reinvention for the next phase of development in the financial futures industry.

## 2. METHODOLOGY

Our work is underpinned by a 'broadly interpretive' (Walsham 1993) epistemology and the longitudinal fieldwork was conducted using qualitative methods. The intent of this paper is, in part, 'exploratory' (Yin 1993) aimed at defining questions, constructs, or propositions for further study. The empirical data presented forms the basis for building the notion of strategic risk positioning, which we hope extends understanding of distinctive issues faced by contemporary actors attempting to manage strategically.

Extensive, in-depth interviews with project stakeholders and key figures in the industry were the primary method for gathering data. The research questions were tailored for different stakeholders in London, Chicago and Frankfurt, but an emphasis on perceived opportunities and risks relating to the shift to electronic trading remained constant. The majority of the sixty-five interviews were tape-recorded with the permission of the interviewee. Interview notes were immediately written up and cross-checked by the two researchers.

In addition to an extensive interview process, three other data-gathering methods were pursued; firstly, we attended industry conferences in Chicago, London, and Frankfurt that had adopted electronic trading as their theme. Secondly, organizational documentation from exchanges, traders, banks and clearing houses were studied, and time was spent observing trading floors. Finally, editorials and media reports were placed alongside the ethnographic observations and interview data. Preliminary analysis processes included transforming our table of interviewees into an 'interpretive scattergram' to reveal different points of view, and making data summaries highlighting key quotations and ethnographic material, to form the basis of experimental 'data sifting' around different themes, concepts and timeframes. Early identification of possible constructs or significant influences at work formed the basis for tentative theory building, which we then explored in subsequent rounds of interviews. This supported our selection of themes for further development and helped us revise our field design by influencing our choice of interviewees as well as the focus of our questions. In light of further data collection and our reading of the current leading-edge literature, we then chose the most provocative and interesting of the patterns revealed for further analysis.

As part of this process of shifting perspective and levels of analysis, we asked ourselves how the themes in our analysis of electronic trading in futures exchanges connected to broader developments in society. The information systems and strategy literatures that we consulted did not seem to give sufficient emphasis to the role of uncertain futures and process of positioning that characterised our findings. We tried to distil the key features of our study into a term to communicate what we felt were significant configurations of time-risk influencing strategy formation in our globalizing age in an attempt to inform our understanding of the times in which we live.

The status of the findings that are reached through this method of analysis are 'interpretive generalisations' (Walsham 1995). Whilst we appreciate that the specifics of our material on the derivatives exchanges may not be relevant for other industries it is hoped that the theoretical issues that we raise, and the introduction of 'strategic risk positioning' as a conceptual tool, might be helpful to scholars and practitioners attempting an informed understanding of complex modernization

processes. The next section will position our approach in academic debates and outline the theoretical foundations at work in the analysis.

## 3. THEORETICAL FOUNDATIONS

There is a long standing tradition of research in the social sciences that discusses the social construction of time and illuminates the way that concepts of time vary dramatically across individuals and cultures (see Sorokin 1943; Hall 1959; Gurvitch 1964; Zerubavel 1987; Hassard 1990; Gell 1992; Adam 1995; Butler 1996). A discernible body of literature now exists on time in management (see Bluedorn and Denhardt 1988; Gersick 1988; Clark 1990, 1997; Ramaprasad and Stone 1992; Whipp 1994; Das 1993; Thoms and Greenberger 1995; Lee and Liebenau 1999) and this research effort is being supported by major journals and conferences.

Strategy has strong temporal implications, for example Mintzberg (1987) relates strategy to a firm's past pattern of organizational actions, their current position, and plan for the future. Others, like Freeman and Boeker (1984) and Porter (1991), conceptualize strategy more dynamically as a flow or stream of organizational actions. Although temporality is a construct or variable that is fundamental to a variety of theories of organizational change and strategic planning, in virtually all these models time is assumed to be unproblematic, independent, 'out there' and 'unilinear' (Kavanagh and Araujo 1995: 103). There has been a call to further develop our understanding of the temporalities involved in strategy formulation to support managed organizational change in response to issues such as globalization (Robertson 1992; Beck 2000), hypercompetition (D'Aveni 1994; Illinitch Lewin and DiAveni 1998), and the demand for decision-making in high velocity environments (Eisenhardt 1989, 1990; Eisenhardt and Brown 1998).

Following Mosakowski and Earley (2000) we contend that whilst time has been implicated by many strategy researchers, few have explicitly focused upon it, treated it with theoretical depth, or tried to expand our knowledge regarding experience of strategic times in practice. A particular area of neglect is 'subjective time' which, apart from a few notable exceptions (Sahay 1997; Orlikowski and Yates 1999) is rare in the broader strategy literature. In this paper we build upon the constructivist understanding of time, seeking to illuminate the processes through which temporalities are constructed and contribute to broader strategic dynamics in which perception of competitive timing may be important.

As Sahay (1997) notes, those who have explicitly focused upon temporality have tended to segregate times in a way that leaves a residual emphasis on measurement rather than perception, interpretation and understanding (for example 'timescales' in Zaheer et al 1999; 'time reckoning' in Clark 1975, 1978). We suggest that approaches to time and strategy need to take into account the interconnectedness and dynamism of contemporary, subjective temporal forms. Our analysis attempts to reveal the implication of subjective temporal perceptions for competitive position and their potential to become politically charged as they traverse boundaries (personal, professional, organizational), particularly in an industry experiencing heightened uncertainty.

Both Schöps (1980) and Bergmann (1981) suggest that it is the positivist search for invariant repetition and pattern that has pushed time into neutrality and meant that 'we don't have the eyes to deal with multiple human times' (Adam 1990, 1995). In an attempt to redress this, we have chosen to present our findings using conceptual tools developed by Barbara Adam that draw to attention the multiple, subjective, temporal perceptions at work in a globalizing industry. Adam's 1995 work on 'global times and the electronic embrace' outlines a distinctive research agenda and introduces the

notions of 'simultaneity', 'instantaneity', 'uncertainty' and 'implication'. Since these themes become assumed by the notion of strategic risk positioning, we explore each of them in turn here.

Key to Adam's approach is the proposition that the 'multiple complexity of many times bears on our life simultaneously, and are lived simultaneously' (Adam 1995). Taking this seriously brings us to create meaning from consideration of the whole, a 'web of reconnections', rather than extraction and isolation (Adam 1995). She maintains (1995) that the 'electronic embrace' of information and communication technologies has played an important role in enabling contemporary sense-making processes. ICTs can be used to give articulation to perception across time and space, networking across traditional boundaries, shaping strategic action. International media and data industries bring us news from every time-zone encouraging us to move from a social present to the *simultaneity* of a 'global present', a web of networked relations where distant events become immediate (Adam 1995).

The capacity for enormous speed coupled with multiple, simultaneous, reflexive connections poses problems at the level of perception, understanding, expectation and action (Adam 1995). *Instantaneity* is, then, not just about speed of communication, but also about our 'total hermeneutic' (Scott 2000), or best attempt at situated understanding through all our senses, as the present moment emerges to us. This forms the basis of our informed, or as Boland (1987) describes it 'inwardly formed', response to situations before us and we adjust our interpretation of the past and future accordingly.

In her study of global times, Adam draws upon Ulrich Beck's (1992) notion of a 'risk society' to elaborate upon her other key characteristics of contemporary time: *uncertainty* and *implication*. The overlapping interests of these two authors helps us to build a theoretical bridge between subjective notions of time and risk. For Beck (1992, 2000b), 'risk' is a metaphor to describe positive and negative opportunities engendered by the perceived obligation to actively construct 'tightrope biographies' in the midst of detraditionalization, and the chronic revision of expert claims. He critiques the use of rational-calculative tools and policies to control increasingly chaotic, globalizing phenomenon (from markets to pollution). Adam and Beck maintain that we need to move beyond stagnant industrial society recipes to highlight the creativity of the 'implicated participant', of the embedded, embodied maker of uncertain and unknowable global futures.

The erosion of our trust in traditional protective institutions and sources of guidance has thrown us back upon ourselves and imposed a further obligation to develop constructed meanings and implications surrounding events. This is not just the rational calculation of deductive logic, but also a deeply personal sense-making that copes with feedback, amplification and implication of multiple times to construct a 'risk position' (Beck 1992). We use Beck's notion of a 'risk position' to give a further edge to Adam's original work and forge a link between uncertainty and multiple times.

A 'risk position' is a stance or an opinion that guides action, formed by imbuing data with meaning as it becomes available to us, in a given time and place. Beck (1992) maintains that we are witnessing an intensification of risk positions. Risk positions are our perception of the uncertainty and implication in our personal and professional life, which we feel compelled to actively manage. They are key social and political positions, shaped by opinions that are 'formed' (Latour 1999) through our interaction with communities (at a distance and close by), media, and definitions decided by scientific-legal entities of various statures (law, scientific reports, regulators like the financial services authorities).

International media acts as a conduit bringing rhetorical fodder and transparency to the backstage work of risk definition, whether it is from competing science laboratories, public courtrooms, or the Federal Reserve. Ease of dissemination has both heightened perceptions of riskiness and given people the opportunity to interpret and reinterpret data for themselves. If those that we traditionally trust will not recognise and protect us from modernization risk, then we have to construct our own 'foreign policy' (Beck 1992).

The implication is that risk positions are dependent upon and sensitive to the diffusion of knowledge about risk. In risk positions the quality of life and the production of knowledge are locked together frequently blurring personal and professional boundaries (Beck 1992). They possess an inherent tendency toward globalization, which challenges us to find a way of managing their distinctive distributional logic and its potential consequences in contemporary society. Risk positions are an integral part of a risk society and contain 'developmental dynamics that destroy boundaries', inspiring 'new sources of conflict and consensus' (Beck 1992).

Studies of the workplace must take into account the reflexivity with which actors respond to the production of knowledge and the sense of obligation they feel to consider its 'implication' for their personal/professional risk positions. What does this turn in events suggest? Should they respond? How should they construct their response? In order to tune-in to the 'implication' of choosing how to live, we must be able to hold in our minds the multiple times of 'high-risk consequences' (Giddens 1990); the imperceptibly short times of improvisation and reflexivity, to the lingering generational impact of side-effects.

Choosing how to modernize is not self-evident and has consequences; once implemented innovations have potential side effects that travel as 'stowaways of normal consumption' (Scott 2000) embedded within routine, day-to-day practices. We have become sadly familiar with this in the food that we eat (BSE/JCD, genetic modification, pesticide residue), and the air that we are exposed to (pollution, radiation, CFCs) but, we would argue, must also become more aware of it in the business that we propagate as this too can bring side effects. For example, in a recent paper Scott (2000) explored the unexpected consequences of IT-enabled credit risk modernization in major UK retail banks and suggested that the calculative agencies inscribed could engender a bland lending portfolio that potentially stifles small businesses, so vital to the long-term health of the economy. The notion of latent side-effects reaffirms the way that risk and time interconnect in the management of uncertainty.

As Das and Teng (2001) note, that the fundamental connection between risk and time has continued to be neglected, yet 'time is critically relevant to risk taking, because risk and uncertainty are intimately related and uncertainty is embedded in time (Das and Teng 2001:516). Lopes suggests, temporality 'gives risk both savor and sting' (1987:289). Although time has been increasingly incorporated in more recent studies on risk (Loewenstein 1988; Lopes 1987; Yates and Stone 1992; Stevenson 1992; Wu and Gonzalez 1999), the temporal dimension in strategy formulation has been under researched. We hope that the introduction and development of our term 'strategic risk positioning' makes a modest contribution, building a conceptual bridge between the gaps in these literatures.

The next sub-section describes the data that informed our analysis. It is necessarily a selective, crafted version of the data from 1998-2000, but we hope it acts as a useful empirical 'base camp' to familiarise the reader with the industry that forms the subject of our analysis.

## 4. THE DEVELOPMENT OF ELECTRONIC TRADING IN THE FUTURES INDUSTRY

Our research focuses on the adoption of electronic trading by major international futures exchanges. Futures exchanges are self-governing membership associations, which serve as an umbrella for member firms and provide opportunities for risk management and the establishment of efficient market prices. The financial services offered by futures exchanges are crucial to maintaining the stability of food marketplaces, enabling farmers and exporters to protect themselves from adverse conditions in an uncertain world (CBOT 1996). They also enable the business community to protect themselves against exposure to financial risk from exchange rate swings, which might threaten their prosperity and consequently that of both their workforce and shareholders (CBOT 1996). The major international financial futures and options exchanges are the Chicago Mercantile Exchange (CME or 'The Merc'), the Chicago Board of Trade (CBOT), the London International Financial Options and Futures Exchange (LIFFE), and the Deutsche Terminborse (DTB) in Frankfurt.

Trading on the major futures markets in Chicago and London has traditionally been conducted through a system of open outcry, backed up by hand signals. Electronic initiatives were limited to the margins within the larger futures exchanges and regarded as a supplementary, after-hours mechanism; for example APT at LIFFE, Project A at CBOT, and GLOBEX at CME. The reason for this rests in the traders' faith that open outcry is the only way to ensure liquidity, and to cope with the large volume of trades that may occur as a result of periodic fluctuations in the markets (Managing Director, Strategic Director, London Clearing House 1998).

When we began our research in 1998, the Chicago exchanges dominated the industry, and the hegemony of open outcry was carefully preserved. Controversy concerning the use of electronic trading was sparked by two key events. The first was the competitive shift of a major international benchmark product (the German Bund contract) from the open outcry environment at LIFFE to an electronic trading system run by the Deutsche Terminborse (DTB). Secondly, a New York-based brokerage company launched an electronic trading system designed to compete directly with the trading facilities and products offered at the Chicago Board of Trade.

Although they had very different perspectives on the events of 1998, the board at all of the major international exchanges realised that at some point in time they had to be seen to modernise. Exchange strategies that involved adopting forms of electronic trading had profound implications for the trading communities and the potential to re-engineer the derivatives industry. One former trader described the situation as follows:

> 'If you look at who is actually in the pit, the broker who works for a company: their jobs are threatened by computers. If you look at the local traders, a small trader like myself who is scalping, in and out, in and out all day: our jobs are threatened. If you look at the salesmen in the booth: his job is threatened. If you look at the salesman and the sales environment they are dealing with: they are threatened. Look at the back office people: threatened. Look at the runners, the clerks on the floor: threatened. Look at the pit exchangers, the guys in the pits, monitoring the prices for the exchange: threatened. The whole industry is threatened.'
>
> (Former Chicago local, MD independent software company, London 1998)

The question appeared to shift from *when* the community would see the board members at the major exchanges act, to a much broader concern about *who* and *what* would survive in the industry.

In July 1998, LIFFE executives announced their strategic response to the loss of the Bund: they would implement a state-of-the-art computer-based information system over the next eighteen months, to enable its members to trade key financial products electronically. The loss of the bund behind them, and in the face of widespread skepticism, the LIFFECONNECT team took up the challenge of building a system that would electronically trade their complex, hallmark product the short term interest rate contract (STIR). LIFFECONNECT was designed to 'overcome most, if not all of the operational issues that exist within the current trading environment' (LIFFE 1998). Although the LIFFE board were not prepared to publicly state that open outcry had no future, the compulsory redundancy of 60% of the LIFFE staff in 1998 did little to reassure.

However, it soon became apparent that the decision-making and resources (financial and human) involved in developing a state-of-the-art electronic trading system were too much for a membership association. By the end of the period of study LIFFE had voted in a corporate structure in which members were given shares in the LIFFECONNECT system. The CME had plans to follow suit, and CBOT were exploring the legality of a similar change in membership structure.

The intense uncertainty now engulfing the industry called forth a whirl of strategic alliance talks. At the end of 1999-2000 'three dynasties' (MD, Strategic Director, London 1998) had been formed. Firstly, the Chicago Board of Trade agreed to form an alliance with EUREX, a coalition consisting of the DTB and the Swiss futures exchange SOFFEX, to share the development costs of a state-of-the-art electronic trading system. This strategy appears to be the closest to a classic shared resource 'alliance' tactic and has been co-branded under the name 'a/c/e' (alliance/CBOT/Eurex).

Secondly, the CME launched 'GLOBEX 2' with the French exchange MATIF based around their electronic trading system NSC. The Merc vigorously pursued formal associations with smaller international exchanges (Montreal, Sao Paolo, Madrid) drawn in through the GLOBEX 2 system. However, in the background the Merc was pursuing a far more complex strategy involving hybrid initiatives using hand-held computers and the development of new electronic products. After the successful launch of LIFFECONNECT closed the open outcry floor in London, executives at the London exchange forged a business alliance with CME to link their respective systems and offer netting arrangements. LIFFE representatives then engineered strategic partnerships with a consortium of leading international software and management companies in order to develop LIFFECONNECT as a generic electronic trading platform and 'a la carte' support services.

Throughout these alliance activities, news tickers dripped word of further, rapid innovation. Whatever pragmatic loyalty exchange members had to the traditional exchanges, was melting as they poured money in other directions. Between 1998-2000, awareness grew about alternative trading systems (ATS) and electronic communications networks (ECNs) across the spectrum of financial markets with 'new era' brand names like 'Archipeligo', 'BrokerTec', 'Blackbird', and 'JIWAY'.

During the period of research (1998-2000) we documented a competitive surge in interest surrounding electronic trading, the revision of relationships within market communities, and a re-ordering of strategic pressure points. The volume of trade had shifted from the Chicago exchanges to Frankfurt, and London had reinvented itself as a service provider. In the year 2000, the industry press was awash with 'brave new world' commentaries and further change was expected. The trading communities adjusted rapidly to the initial impact of electronic trading, but the topology of the

industry is still deeply uncertain and emergent. The survival of the traditional major international futures and options exchanges is not assured:

> 'There's no question about it, the position is getting very confused. People are now going for centralisation and clearing, you've seen all the sort of mergers taking place on the clearing side. So there's a tremendous convergence taking place, intra-border and cross-border, but I don't think, well, this is a difficult thing to say, but I'm not sure, I don't think that's going to save the Exchanges.'
> (Chief Executive, Financial Futures and Options Association, London 2000)

## 5. ANALYSIS SECTION: INTRODUCING AND DEVELOPING THE NOTION OF 'STATEGIC RISK POSITIONING'

In this analysis section we develop the notion of strategic risk positioning (SRP) to provide insight into influences and pressures upon strategy during phases of uncertainty in contemporary business. We illuminate the core building blocks of our SRP notion drawing upon data from our case study. In so doing, we present an analysis of management responses to the competitive threat of electronic trading at the major international financial futures exchanges.

In the first sub-section of the analysis we define strategic risk positioning and discuss its underlying theoretical constructs. Strategic risk positioning emphasises subjective notions of time and risk in order to amplify distinctive time-risk dynamics texturing the context of contemporary strategy formation. We found strategic risk positioning useful as a central organising to communicate our analysis and suggest that it may hold some value as part of a conceptual tool box with which managers could begin to systematically organise their thinking during uncertain phases of industry development. Finally, in constructing an analysis from a SRP perspective we hope to connect our analysis of electronic trading in futures exchanges to broader developments in society in an attempt to inform our understanding of the times in which we live. The remainder of the analysis section is organised into four sub-sections. Each sub-section is organised around a tenet of strategic risk positioning and the findings that it generates from our electronic trading case study.

### 5.1 STRATEGIC RISK POSITIONING

In times of uncertainty, we are faced with the challenge of deciding 'what threat to respond to and when' in the face of a degree of complexity that presents problems at the level of perception. Too many contingencies surround issues; the awareness of living multiple times simultaneously becomes heightened and stressful. It becomes harder to short list strategic options, which appear to exponentially proliferate with new information and turns in events. Programmes of action that seemed marginal move to prominence posing unexpected threats; if managers were not already conscious that multiple strategies co-existed concerning the future direction of the industry they become confronted with them now.

There is increasing belief that extending the nature of the material gathered as part of strategy formulation during periods of uncertainty can generate important market intelligence (Courtney 2001). If there are multiple interpretations about the issues that will dominate future agendas and it is hard to assess the timeframe in which different issues will go critical, it may be important to deepen understanding around a range of options in case one proves central. Courtney (2001) has suggested that qualitative data can hold particular value in this regard as it conveys insights into issues lying in wait that have yet to be reflected in quantitative measures like return-on-investment and cost-benefit analyses.

Strategic risk positioning is, therefore, proposed as a central organising concept that could form part of an extended repertoire of systematic research approaches during phases of uncertainty. It is a perspective taking and perspective making tool (Boland and Tenkasi 1995) for qualitative data designed around the thematic lens of time and risk. We have focused upon multifaceted subjective notions of time and risk as we believe they potentially contribute to the momentum of turbulent phases in industry development. Indeed, interpretation of threats, opportunities and 'the right time' prove pivotal in some situations. Furthermore, their interpretation can vary dramatically across individuals and cultures, which gives us a method of analysing multiple embodied and embrained perspectives. This produces insights into the mediating practices and cultures through which events at a distance are interpreted. Sassen (2001) suggests that whenever we become aware of a mediating culture we should explore it as the values and norms dominating this group will shape their programmes of action, like electronic infrastructures, and potentially influence development of the next phase of globalization.

We draw attention to bids by actor-networks to ensure that their local interests achieve stability as markets reach global scale. Stakeholders need to be aware of a politics of the global centred on localities (Sassen 2001), and the kind of political artistry that is needed to manage in this context. The question that strategic risk positioning helps us ask is then: how do local configurations of time and risk weigh upon strategic imagination and influence the levels of urgency and uncertainty that becomes ascribed to issues?

The awareness of operating on global networks, and the capacity to allow moments of the 'global present' to emerge, varies considerably. We suggest that communicative acts have become particularly important in the management of perception constituting and bearing upon strategic implication. We emphasise two influences fuelling communicative acts that are of particular significance for financial services: firstly global new media, and secondly the expansion of social relations enabled by information and communication technologies across an internationalising market community.

Global media fuels processes of interpenetration between local and global bringing us news of trends and issues in distant locales. ICT mediums have engendered the capacity for global transparency that influences the temporality of responses to events that are disseminated over global networks. We suggest that the potential speed of communication in contemporary society reconfigures time-risk relationships, generating heightened expectation and anticipation of response. Furthermore, the scope and reach of electronic communication networks can contribute to unintended escalation of events to threatening stature. In this way, ICTs play a constitutive role in politically charged 21st century communicative acts. This can affect change during times of uncertainty by fuelling a 'highly nervous institutional reflexivity' (Giddens 1994) centred upon future-oriented 'what-if' speculation.

It is becoming increasingly difficult to deny the instantaneity of IT-enabled sense-making emerging in the 21st century if one wants to maintain a robust strategic position. Decision-making becomes problematic when bombarded by new information during times of uncertainty, yet we still have to manage. We propose that Beck's (1992) notion of 'risk position' is a more helpful construct to describe the strategic agencies that we can put to work during phases of industry turbulence. However, we give this notion an further turn. Strategic risk positioning is deliberately posed as a verb because it relates to the reflexive manifestation of time-risk relationships and the kind of on-going management that they demand. We maintain that the activity marketing guru Jack Trout

referred to in 1969 as 'positioning' connects to key processes of globalization that give this notion additional purchase analytically.

Commentators on contemporary society maintain that we are going to have to learn how to live with risk and uncertainty, where unpredicability is the norm rather than the exception. Authors like Mandel (1996) suggest that rather than allowing this to overcome us, we need to develop tools to manage uncertainty. This brings us to another key characteristic of strategic risk positioning: the emergence of *homo derivatus.* Mandel (1996) suggests shifting toward the financial market model, where people have choices about how much risk, and what kinds of risk, they want to take. Using an expanded repertoire of data, we review our options, assess their probably strategic implication and placing 'bets' designed to reserve the 'right to play' as an approach to surviving uncertain times. The speculation in multiple strategies is not a neutral process, however, and may exacerbate the complexity of competitive dynamics.

The final tenet of strategic risk positioning encourages researchers and practitioners to consider to potential side effects generated by reinvention and survival tactics. Of particular concern should be the time-risk configuration of trust relationships that emerge from the ashes and the consequences of gradual corrosion in reputation for the long term competitive standing of market institutions.

### 5.2 MULTIPLE TIMES, MULTIPLE STRATEGIES

In this sub-section we highlight the many potential strategic temporal forms at work in our case study of the futures industry in order to establish a key tenet of strategic risk positioning, the thesis of 'multiple times yielding multiple strategies'. Building on this conceptual foundation, we use data from the traditional futures exchanges to provide insights into the way in which local perceptions of present competitive position may have shaped the way in which the 'strategic implications' of electronic trading were interpreted. This reveals the political consequences surrounding the way that people mediate the global/local temporal structures and uncertainties involved in widespread IT-enabled modernization.

News media coverage detailing the swing toward electronic trading gave the impression that it was a spontaneous 'new' phenomenon, however, the idea of electronic trading in financial markets had been circulating since the early 1970s and all of the major exchanges experimented with information technology options over the years. During the time lag between early initiatives and the competitive shift toward electronic trading in the late 1990's, multiple strategies were building momentum in the background.

Demand for risk management products increased rapidly, putting pressure on market space, hours of operation, and forcing the price of exchange memberships to escalate. Regulatory authorities around the world became concerned about the potential systemic risk associated with increasingly complex trading strategies of financial services institutions and waited eagerly for the transparency that electronic trading would offer. Regulators hoped electronic trading would support efforts to increase accountability and circumvent the more evasive practices of locals in the pits. The cost of providing the pit trading infrastructure itself was swelling, as the traditional exchanges were obliged to provide additional support staff and communication technologies so that members could keep up with world events influencing trades.

The pace of information and communication technology development reached a critical phase; electronic trading systems were gradually considered capable of significantly augmenting human

expertise. The key to the success of well designed IT-enabled trading strategies was the speed of execution once they have been triggered. As one trader put it:

> 'I made my money in the pit mostly be doing spread trading, calendar spreads: buy March, sell June…Sometimes, I anticipate a guy asking 'What's June?'…And I'd get a hit. I could beat the other guys…There is no way a guy like me who basically made his money by being able to execute quickly, well (pause), that skill is not gonna be the same in an electronic environment… If a computer is programmed so that it does the trade if June is offered here and March is bid there, there is no way I could beat it. The computer beats me every time.'
>
> (Former Chicago local, MD independent software company, London 1998)

Around the world, key market participants were positioning themselves for the adoption of electronic trading, and traders were described as moving into a 'comfort zone' (Project Manager, CBOT Project A, Chicago 1998) with electronic trading practices.

Whilst these global times interpenetrated local times and were 'lived simultaneously' (Adam 1995) by some market participants, situated perceptions of present competitive position shaped beliefs about the strategic implications that they held for local members of the traditional exchanges. For the locals in the pits and dominating the exchange committee structure 'the world came to them'. As a comfortable and highly profitable de facto monopoly their interpretation of a 'global present' was the constellation of statistics and symbols that surrounded their stationary pits.

Prevailing 'local times' of the constituent membership at the traditional exchanges tended to influence the sense of urgency and uncertainty that they ascribed to the development of electronic trading. Many members translated the notion of history into longevity and their strategic horizon tended to be shaped by local self-interest. This was particularly intense at the worlds largest exchange in Chicago:

> 'You have only got to go to Chicago and hear the sorts of words they're still saying like, "The pit will never die!" OK, they've got 150 years of history in their pits, rather than 15 years in ours, but even so some of the arguments they put up to explain why they would never go electronic are rather strange…Its like heresy over there. But you can understand, I mean there are fourth and fifth generation people who have had seats there for 100, or 120 years standing in those pits'
>
> (Project Director, LIFFECONNECT, London 1998)

Seized by a seemingly unbreakable hegemony born of their own success and local history, many members of the international financial futures exchanges turned their back on the competitive surge of interest in electronic trading creating a critical time lag in the development of their electronic trading strategy. At the Chicago Board of Trade clutches of frustrated members who had converted to electronic trading on the Frankfurt exchange railed that:

> 'They have a bad problem with denial ... and they are just burying their heads in the sand…If they look at it…most of them, you know, are too embarrassed to see. They just want to keep their jobs!'
>
> (Former Chicago local, MD independent software company, London 1998)

The emergence of electronic trading as an important strategic challenge was a 'shock' to some market participants and it triggered an intense scramble for survival during 1998-2000. However, these multiple strategic agencies were never beyond imagination; they had been brewing in the background as potential recognised by those willing to develop a broader sense of the 'global present' (Adam 1995). Entrenched local temporal priorities, numbed the appreciation of 'power-full' traditional

exchange members to the complex agency of contemporary globalizing times. In Chicago they reasserted their continued investment in physical pit trading and rejected the idea that electronic trading posed any serious strategic threat. When a key institution announces a recalcitrant position it can trigger an intensely reflexive process of meaning-making that highlights important characterisitics of work and work life in the current phase of globalization.

We suggest that the dissemination of politically-charged communicative acts plays an increasingly noteworthy role in configuring relationships in market communities. ICTs contribute to the instability and volatility of uncertain times by enabling the expansion of social relations across time and space fuelling potential dynamism. An expectation and anticipation for competitive response builds, which in an information age becomes politically difficult to disregard. In contemporary society, managers and researchers need to respect the role that electronic communication networks and international news media can play in constructing 'strategic dramas'.

The international news media (especially the business channels) have assumed particular importance in financial services as a consequence of their capacity to distribute viewpoints and perceptions. We suggest that the scope and reach of global media can fuel the potential of 'significant events' (Yetton, Johnston and Craig 1994) to act *as portents*, whose interpretation may change strategic horizons, reconfigure time-risk relationships and generate uncertainty. This uncertainty tends then to be broadcast, exponentially escalating and reverberating across industries. In our case study, a portent was summoned when the DTB/EUREX exchange gate-crashed and took the Bund contract from LIFFE's core. The loss of the Bund shocked not just LIFFE, but the international exchange communities, as it broke the previously held belief that the generation of significant liquidity in a product assured an exchange would remain dominant in that market.

The second portent in the futures industry was the launch of the Cantor exchange from New York, which directly competed with the products traded at the Chicago Board of Trade. The early lack of success by the Cantor initiative gave CBOT members a false sense of security and invulnerability.

> 'There's a big difference between a boogie man that's in front of you or a boogie man yet around the corner. You don't feel quite as endangered by the one you can't see. The community, such as the Board of Trade for instance, had to be educated that that boogie man is a real boogie man, he's not just figment.'
> (Former CEO of Chicago Mercantile Exchange, Chicago, 1998).

As these harbingers emerge into present time consciousness they trigger an 'adjustment' (Mead, 1959/1932) in the meaning given to past events and potential futures. These revised perceptions became the subject of intense communication among close social networks constituting the financial services community. In 1999, the interview data began to reflect an erosion in the reputation of traditional exchanges as a result of their 'active inertia' on the issue of electronic trading. The deterioration of trust relationships was palpable; as a competitive response suffered delay, the meaning and status of symbols surrounding the exchanges changed:

> 'The CBOT building is the most significant evidence of an industry that has reached its peak. They spent $250 million on bricks and mortar expanding the trading floor, rather than technology. It is a beautiful building….(gesticulates)…even has its own deity looking over it. But it is like the English Admiralty Building, completed only as its glory waned'.
> (President, environmental derivatives company, Chicago 1999)

The longevity of the Board of Trade and presentation of itself to the public were now liabilities, characteristics of the kind of organization that doesn't survive the 'e-shock' (2001 De Kare-Silver). And yet, the traditional exchanges are still significant players on the international capital markets and have not shuffled off the world stage yet. So, what are the subjective influences at work here and the potential implications of such a profound shift in the perception of trust relations? We suggest that the simultaneity and instantaneity of the risk society heightens awareness of *uncertain futures* and that this configuration of subjective time-risk then weighs heavily upon personal/professional sense-making constituting strategy formulation.

## 5.3 MANAGING UNCERTAIN FUTURES

In this sub-section, we suggest that 'uncertain futures' are one of the distinctive time-risk relationships that texture the contemporary business ecology, and a key feature of strategic risk positioning. We therefore develop our understanding of this subjective time-risk relationship further: focusing firstly on its future-oriented temporality; and then moving on to imbue the notion of uncertainty with a distinctive interpretation based on the 'risk society' thesis.

As Mosakowski and Earley (2000) note, a future-oriented perspective appears in virtually all strategy literature, for example: a SWOT analysis suggests strengths and weaknesses today given future opportunities and threats; mission statements (Baum, Locke and Kirkpatrick 1998; Larwood, Falbe, Kriger and Miesing 1995) help develop a coherent focus today to help the firm compete in the future (Hamel and Prahalad 1994). We contend that these traditional approaches do not encompass an adequate understanding of the shifting role that the 'future' plays in our meaning-making and strategic action. We draw together work from across literatures, to give theoretical depth to the conceptualization of the 'uncertain futures' and establish a link between time and risk relations in our notion of 'strategic risk positioning'.

The heightened tensions surrounding any perceived obligation to 'colonise the future' (Giddens 1989) are accompanied by subjective imaginings of induced choice and potential threats that lie beyond the scope of industrial society management methods. As Mosakowski and Earley suggest, most accounts of organizational change emphasise perceptions of a firm's current strategic choices, or presents retrospective descriptions of past events:

> 'Few studies have data on expectations of the future (see Bromiley 1991 for an exception), even though the definition of strategy as a plan for the future is widely accepted. If a research project assumes punctuated timeflow, a future orientation, and strategy as a plan, data collected should reflect beliefs or expectations'.
> (Mosakowski and Earley 2000: 806)

A more pressurised future-orientation reassigns effort and reorders issues in strategy formation. During phases of uncertainty there tends to be a heightened awareness of the strategic implication surrounding responses and market movements. The 'electronic embraces' (Adam 1995) of ICTs imposes transparency making it difficult for customers, shareholders and staff to live in different information worlds. This contributes to a compulsion to act and obligation to be 'seen to respond'. Our case study on electronic trading indicates a pronounced role played by future-oriented notions of expectation and anticipation, which when left unfulfilled eventually turned to frustration. The triggering of latent strategic agencies intensified uncertainty as market participants forged new horizons around the potential to disintermediate. Of the many time-risk relations constituting the

perception of 'uncertain futures' in the financial markets in this period, it is suggested that an important and complex role has been played by the subjective notion of 'threat'.

Threats of strategic action have, of course, often characterised negotiations during times of change. However, we propose that in a globalizing age they become entangled in information media an rise to prominence adding to the political dynamism of uncertain times. It therefore becomes important to consider the role of threats with particular care and examine its distinctive time-risk features with in more detail.

We propose that threats communicate and contribute to the momentum of a 'risk society' (Beck 1992). Following Beck, we suggest that a significant feature of contemporary conditions is the way that subjective risks are perceived and propagated. Ulrich Beck (1992) maintains that risk reverses the relationships between past, present and future. The past loses its power to determine the present, as uncertain futures increasingly weigh upon present day experience and action is taken by the future. We suggest that contemporary ways of perceiving the future have implications for strategic thinking and have designed the term strategic risk positioning to embrace this shift in status of the future.

Bernstein (1996) contends that in the modern western world we perceive the future in a very different way to previous times when fate and destiny prevailed. Indeed, 'the ability to define what may happen in the future and to choose among alternatives lies at the heart of contemporary society' Bernstein (1996). Methods of coping with this have proliferated, from psychoanalysis to calculative-rational risk management tools of which the derivative markets are a potent example. Boden describes them well:

> 'In trading a future price on the exchanges of today, social actors use immediate market conditions to instantaneously shape both present and future relations of market and economy. In so doing they broker important aspects of the future itself...Time and space are collapsed into a global present, which is highly reflexive as positions are manipulated and minor shifts made in response to any fluctuations…The results are global in both consequences and creating the continuing conditions of next actions…Capital is in flight and modernity itself drifts.' (Boden 2000).

Boden's description of the potential influence of futures reveals a key point, that although we rely upon quantitative risk management tools driven by the historic data analysis and projections of rational-calculative sciences, we are threatened by strategic challenges that often overwhelm them.

In addition to the expected or 'normal' uncertainty regarding the future, we now face the complexity of modernization risks, and find ourselves caught up in some very distinctive contemporary time-risk relationships. Whether it is pesticides leaching into water supplies, or the strategic implications of tactical technology use in rapidly modernizing markets, the dilemma is that although no one seems *sure* which way to go, most sense the impending 'risk trap'; the longer you ignore it, the greater the potential risk grows (Beck 1992). An important part of contemporary society is, then, a peculiar reality status described by Beck as 'no longer, but not yet'. This is a 'what if' world where security has been lost, but destruction has not yet arrived, in which we have to construct our professional and personal responses without the reassurance of traditional institutions to shore us up. Strategic risk positioning focuses us on how people manage in the awareness of uncertain futures and strategic threats in an information age. We propose that an important aspect of coping with uncertainty is the construction and active revision of risk positions.

## 5.4 THE TIME-RISK OF RISK POSITIONS

In this next sub-section, we borrow a term from the phenomenon in our case study and partner it with constructs from social theory to build the next tenet of strategic risk positioning. We suggest that during times of uncertainty we become entangled in the compulsion to construct risk positions to manage our relationships to uncertainty. A risk position in the financial marketplace is a spatial metaphor denoting the colonisation and organisation of particular time-risk configurations. The social theorist Ulrich Beck ascribes a broader meaning to this term to encompass the social construction or risk and identity.

During periods of industry turbulence, it is important to become aware of our position in networks of distributed relationships and pay attention to the heightened reflexivity characterising turbulent periods of change. Our case study shows that during the surge in interest surrounding electronic trading in 1998-2000, some members of the market community became particularly attuned to potential strategic implication and acted to ensure that they were positioned to survive. In coining the term strategic risk positioning we hope to emphasise the contemporary obligation for strategic agency and the importance of communicative acts to help manage perceptions surrounding the positioning of these in people's minds.

The landslide of attention given to the emergence of electronic trading reconfigured connections and relationships, not just technologically, but politically too (Star and Ruhleder 1996). The idea of electronic trading connected with so many agendas, across so many different communities, that industry boundaries were rapidly reconstituted. We contend that as issues traverse boundaries between traditional units of analysis (personal, professional, firm, market) their potential for political transformation grows. In the broader trading community there was a growing awareness of mutual *adjustment* in the risk position between major market participants and the traditional exchanges.

Interpretations of electronic trading and its strategic implication overflowed the boundaries that exchange staff tried to put on it. Senior management tried to contain the issue through the public announcement of strategic alliance talks between the major international exchanges. Senior exchange staff followed classic business school logic, by continuing to 'integrate themselves into the world economy through alliances' (Drucker 1992). However, in such a dynamic situation the routine of tinkering and negotiating at the margins of the oligarchy's global market share was not regarded as radical enough. As one of our interviewees put it:

> 'What do alliances represent? The alliances are a *perception of movement*. They are *a response*. Alliances are *great* – that sounds like I'm contradicting myself because I told you to look at them clinically and compare them with other industries. Look at it surgically. An alliance is like, the patient twitched…this is a long way from the patient getting up and walking and reinventing themselves.'
>
> (President, environmental derivatives company, Chicago 1999)

Instead, we suggest that in the international financial futures industry multiple strategic agencies were at work with varying degrees of transparency. If exchange staff were not prepared to manage this threat, others felt compelled to do so.

Set alongside slow moving, gradual, statesman-like negotiation and legal process characterising the public alliance rituals was a whole scale adjustment. The broader processes of positioning and

reinvention injected a dynamism into this area of financial services beyond conventional modes of control, such as formal alliances, as the implications of electronic trading were worked out at individual and group level.

This reflected a 'general will', supported by multiple interpenetrating actor-networks, to revise industry ecology, professional skills and use of electronic trading in the markets. The data shows that in the traditional futures markets, personal and professional risk blurred as concern *over current position* and role, shifted to concern about *longevity of career* and eventually ability to generate a *livelihood*. As controversy spread, people made a 'global extension of their individual present' (Adam 1995) positioning themselves in the multiples times of competitive change. Whilst the alliances represent negotiations between relatively small networks, reinvention connects to the complex multiplicity and temporality in thousands of creative individual biographies.

## 5.5 STRATEGIC RISK MANAGEMENT IN THE INFORMATION AGE

In this sub-section we examine contemporary approaches to coping with uncertainty highlighted by our study and consider what they reveal about strategic risk management in an information age. Particular attention is given to tactics of hedging, betting, and reinvention as ways of optimising personal and professional capacity to survive the times.

Establishing a complementary risk position to manage risk over time is an industry reflex in the financial futures industry. Loyalty to the traditional exchanges had eroded during critical time lags in the implementation of competitive electronic trading strategies. By engaging in hedging and betting actors were not completely subject to and victim of inertia by a dominate market entity. Our data revealed that market participants made speculative investments in the information and communication technology companies that were invading their pits.

> 'People are even less sure about the future than they were five years ago. The chinks that have occurred in the last two years are absolutely phenomenal... So in that case, we'd better have a bit of each of them…we better have a bit of Trade Point, we better have a bit of BrokerTec and then maybe some of these are going to be winners and we own 20% so that's cool.'
> (VP derivatives, major financial institution 1999)

At first this appears almost cannibalistic, as members of the traditional exchanges invest in initiatives designed to disintermediate them, but we suggest that it also holds potential to support a 'creative self-destruction' (Beck 1992). It could, for example, provide time for reinvention in response to fundamental changes in industry trajectory, or opportunities to reskill and better cope with modernization. Our conclusion was that the tactic of identifying a range of options, assessing their probably strategic implication and placing 'bets' designed to reserve the 'right to play' holds considerable potential as an approach to surviving uncertain times. Hedging bets colonises a strategically selected variety of possible futures, buying the actor time while events unfold.

This wave of speculative investment injected a massive amount of venture capital into electronic trading initiatives, which increased the range of research and development into the use of ICTs in financial services in important ways. From our present perspective in 2002, we can see that events like the 'dot com crash' tempered the immediate market affects of investment considerably. However, we would suggest that whilst the economic downturn has slowed the pace of knowledge accumulation, it cannot erase it. Considerable expertise was cultivated in the 'petri dish' of 1998-2000. In a knowledge society this will find its niche somewhere. The market community went through a significant learning curve with regard to the capabilities and limitations of electronic

trading. The capacity to design, launch and use electronic trading has been established. However, making money on the financial markets and managing risk are still significant strategic challenges. Adding electronic trading to the situation has contributed to the complexity in the industry.

This points to one of the most threatening aspects of life in a risk society, which we try to build into our notion of strategic risk positioning: as we adapt to one set of risks, we often generate a further set of side effects that in time will have to be faced (Beck 1992). The lifeblood of a market is the capacity to match buyers to sellers; if a market is 'liquid' then both buyers and sellers can be confident that they can come to market and have their demand satisfied. The threat of liquidity being stretched across multiple electronic trading platforms in 'bear' market conditions reinforced an underlying belief that traditional exchanges still had a role to play in the marketplace. The question is now how to position them alongside electronic trading?

The fallout from the surge of interest in electronic trading between 1998-2000 continues. Ironically, some of those who fought for increased use of ICTs in the financial markets have found themselves on the verge of disintermediation by the wave of modernization. The threat of electronic trading has shifted competitive pressure points and left the definition of a 'value adding service' in an on-going process of revision among the market community.

## 6. CONCLUSION

During times of uncertainty established strategic horizons appear redundant as 'rules of the game' are broken, diminishing the potential for measures and heuristics organised around conventional industry norms to guide strategy formulation. Phases of industry turbulence are not, however, the time to collapse into total reliance on 'gut' feeling and panic-shaped intuition. Recent literature analysing effective management under conditions of uncertainty suggests that since disruption to industry stability makes the construction of the normative statistical 'fact bases' that inform strategy problematic, managers have to find ways of systematically working with different kinds of data (Courtney 2001). Qualitative analyses of subjective time-risk relationships may provide valuable input in areas that resist quantification but nonetheless have implications for the longevity of the organization, for example: shareholder goodwill, reputation, customer relationship management, staff retention, and conditions supporting knowledge management.

Strategic risk positioning is a concept that we have introduced and developed to draw attention to distinctive contemporary time-risk dynamics at work in corporate life during phases of industry turbulence. Our aim is to explicitly take into account subjective time-risk features (like uncertainty, urgency, threats, side-effects), and consider the implications that they hold for strategy formulation. We theoretically extend and empirically support exploration of the connection between time-risk relationships with particular focus on revised ways of relating to 'uncertain futures'. We advise managers to develop greater awareness of distributed, contingent time-risk relationships and a broader sense of the reflexive agencies influencing the emergence of strategy in practice.

By analysing strategic agencies in a social context we have attempted to present an account of the depth and breadth of agency in the 'runaway world' (Giddens 1999). Conditions of globalization heighten the demand placed upon us to actively manage our relationships to uncertainty and oblige us to remain open to the potential of multiple strategies if we wish to remain agile. Although proximity makes threats seem urgent, it is important to move strategic thinking beyond local events and recognize the way in which globalization can potentially reconfigure relationships over time and space. Uncertain workplaces demand heightened socio-political skills capable of mediating and off-setting multiple times.

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