A PROPOSED INSTANT MESSAGING (IM) PLATFORM FOR ADDING HUMAN INTERACTION TO E-TRADING (ELECTRONIC TRADING) WITHIN THE BASE METAL COMMODITY DERIVATIVES MARKETS

By

Rory Colm John McCarthy

A DISSERTATION

Submitted to

The University of Liverpool

In partial fulfilment of the requirements
for the degree of

MASTER OF SCIENCE

12th June 2010

ABSTRACT

A Proposed Instant Messaging (IM) platform for adding human interaction to E-trading (electronic trading) within the base metal commodity derivatives markets

By

Rory Colm John McCarthy

The net result of the advent of electronic trading (e-Trading) in the wholesale financial markets has been the migration of significant volumes of vanilla[1] transactions to electronic venues (e-Trading), via mechanisms such as LMEselect and other electronic platforms. These platforms were created by the exchanges and companies historically involved in the trading and broking of these instruments. The shift from Open-outcry and phone to electronic has had many ramifications, both from a business model point of view, to one of lack of human interaction as E-Trading, utilizing an electronic platform usually involves no human interaction between the participants. To date incorporating human interaction into e-Trading has not successfully been addressed. This is not restricted to financial markets transactions as similar issues are present in other businesses in different areas (booksellers, travel agents etc.). The business models of participants has altered as income via commission, revenue from trade flow (offsetting purchases and sales) and value add has diminished significantly. In addition many participants have had to develop or lease order routing systems to offer to clients, hoping to benefit from subsequent order adjustments and perhaps capture trade flow revenue. The increased volatility caused by the activity of HFC and algorithmic trading systems has also made human order placement into electronic systems problematical, with occasional

[1] Simple

wide price movements. The issues relating to lack of human interaction are more subtle, relating to difficulty in handling the complexity and granularity of the transactions and changes in job scope (indeed even continued existence of jobs) and the ability to assist customers in their hedging requirements.

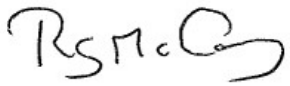
Concurrently the usage of instant messaging has developed, starting off as an un-regulated (both in statutory and infrastructure perspectives) initiative by sole traders brokers and gradually adopted by those working within larger organizations. IM has few of the functions provided by e-Trading platforms, but crucially does have the conversational ability and can in its current form allow participants to transact business in a similar fashion to that of the phone. The primary focus for this project is to consider a proposal for development or purchase of an enhanced Instant messaging platform that would provide human interaction, price dissemination and binding transaction execution similar to that provided by current electronic trading platforms. There are various business drivers behind this, which would be common to other similar participants, customers and counterparties not only within the base metals markets, but also in other commodity, financial and physical trade markets and perhaps an even broader applicability.

DECLARATION

I hereby certify that this dissertation constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

I declare that the dissertation describes original work that has not previously been presented for the award of any other degree of any institution.

Signed,



Rory Colm John McCarthy

“This dissertation contains material that is confidential and/or commercially sensitive. It is included here on the understanding that this will not be revealed to any person not involved in the assessment process.”

ACKNOWLEDGEMENTS

Academic Acknowledgement

I was extremely pleased that Martha McCormick agreed to be my dissertation advisor. All of the instructors, I have encountered during my studies have been excellent, but I really felt that Martha's style suited me. Martha has been indispensible in encouraging and guiding me towards attaining the ultimate objective of completing this dissertation – Thanks so much Martha.

The other instructors also contributed greatly to my understanding of the varied collection of technical, organisational and human aspects of the subjects covered. William Fone, Taly Sharon, Lelia Livadas, David Wang, Fred Kellenberger, Alfred Vella, Habib Khan. Thanks to you all, you have really had a life changing effect upon me.

Special mentions must go to Elizabeth Van der Burg my SSM who has patiently listened to, and responded to my various queries and Emma Matthewson who started me off on the road.

Work Related Acknowledgement

I'd like to thank all of my colleagues and peers in the industry who provided massive assistance in my undertaking, Dr. Mo Ahmadzadeh, Peter Allan, Dr. Edel Tully, Steve Kanner, Rick Holmes, Micki Richmond, Abe Ulusal, Guy Brennan, Shinya Ikezaki, Simon Underhill, Elliot mount, Sally Hemsley, Rishi Sawhney, Christian Pfeifer, Scott Davis, Craig Mounsey, Tony Walters, Glen Chalkley and Barry Patel. There are numerous others who have also helped, but not enough paper to name them all!

Special thanks go to my long suffering close colleagues Alison Heath, Jean-Luc Charles, Philip Fogarty, Matthew Knight and Matthew Crane who have suffered many hours of listening to me about "The Course!"

Personal Acknowledgement

If my colleagues have suffered, that is as of nothing compared to my poor wife Eleanor and my daughters Siobhan and Chloe who have had to endure me when I was talking about "the course" and missed me for the many weekend hours when I was hidden from family life.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Page

Chapter 1. INTRODUCTION

1.1 Scope

The scope of this project is to investigate the usage of instant messaging within the wholesale commodity derivatives markets and to examine if an extended IM platform could be used instead of a traditional e-Trading platform.

1.2 Exclusions to this project

The following technology and forms of e-trading are excluded from the scope of this study, as they intrinsically require an algorithmic digital platform without human interaction which renders an IM platform unnecessary.

1.2.1 High Frequency Trading

Whilst similar to below algorithmic trading High Frequency trading relies upon lightening fast execution of transactions, sometimes even making small losses which are offset by commissions paid by the exchanges (New York Times, 2009). As mentioned in the section on latency, this form of trading requires the order input device to be as near to the “exchange” as possible to reduce latency.

1.2.2 Algorithmic Trading (ALGO)

Algorithmic trading is a rule based approach to trading whereby a computer with connectivity to an order router executes the transactions depending upon the prevailing market conditions. This used to apply mainly to institutional traders, but has now begun to see retail customer take-up (Mead, 2010). At its simplest Algo trading May compare the prices of two similar instruments on different exchanges and take advantage of any price mismatch, functionality for which is usually provided by ISV’s.

1.2.3 Unified Communications

Whilst IM is a subset of UC and its attributes and capabilities are in many cases expanded upon, the usage of UC in its broadest sense would dilute the focus of this project, other than when incorporating usage of components of UC such as e-mail, SMS into the survey / interview questions. It is likely however that UC will in time be adopted by market participants.

1.2.4 Video IM

Video is now embedded in most consumer IM platforms and would indeed be beneficial to human interaction, potentially providing a more satisfactory solution than any other form of interaction. However, it was felt that the technical limitations caused by network congestion and current diversity of machine specifications may present obstacles in providing a robust enough solution to conclude transactions, given the criticality of constant, non latent communication.

1.3 Problem Statement

MCRM (Mitsui Commodity Risk Management) is the acronym by which the Separate, commodity derivative trading arms, of Mitsui & Co. Ltd., a diversified Global trading and investments firm is known. The MCRM offices are based in London, New York, Sydney and Singapore. As Allen et al stated in 2001, the advent of e-Trading has transformed the economic landscape of trading venues (Allen et al, 2001).

This project addresses the problem from the perspective of a market maker / broker offering services to their customers. The benefits of e-Trading mean many things to the different participants some of whom may see no downside to its introduction whilst others have seen their roles irrevocably altered. In many ways brokers can be consid-

ered “middlemen” and as Jarvis boldly states in his book “middlemen are doomed” (Jarvis, 2010, p73). It is not however quite that simple, as participation in the wholesale financial markets, requires the middlemen to act as more than a conduit for the transaction. Allen et al address this as “Market Architecture, which also affects the market quality , liquidity, availability, cost of trading etc. (Allen, 2001)To address this ongoing transformation, choice of technology can have a dramatic effect upon the competitiveness of financial services companies such as MCRM, and can be a key differentiator to the services provided.

Electronic point and click trading does not require any human interaction, other than the dealers input and as such, the results from my interviews resulted in a high ranking for e-Trading platforms for concluding vanilla transactions, but as stated by Tse, there is far more information content contained in open outcry (Tse & Zabotina, 2001) E-trading has not had an entirely beneficial effect upon the business model and Income streams to companies within the commodity broking industry. Since its inception, e-Trading has gained significant traction. The below chart shows the increase in volume of e-Trading on the LME since 2001 on a global basis

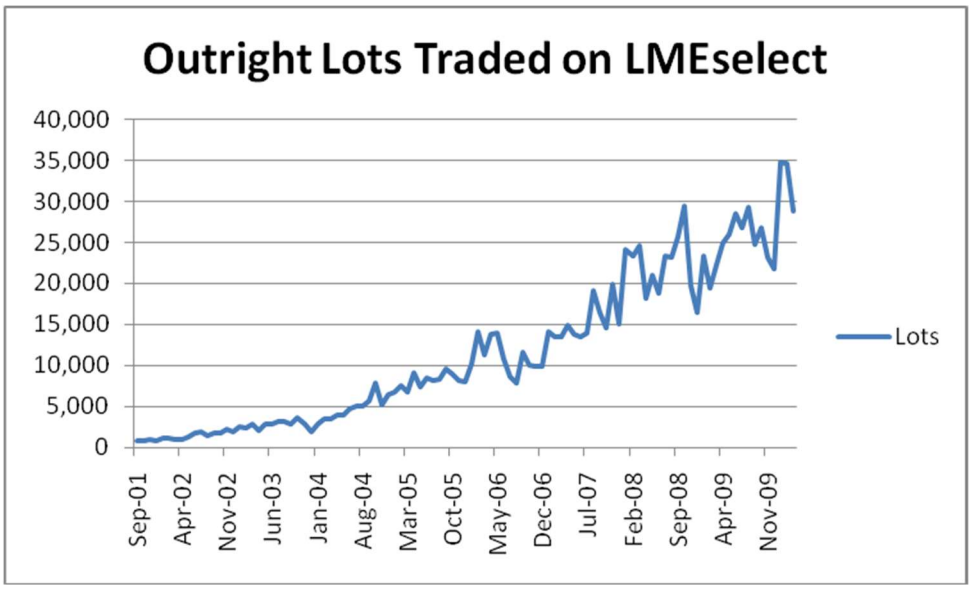


Figure 1 Volume of LMEselect Transactions 2001 - 2009

As supporting evidence, the following chart also reflects the increase percentage increase in transactions executed via LMEselect from MBC's point of view

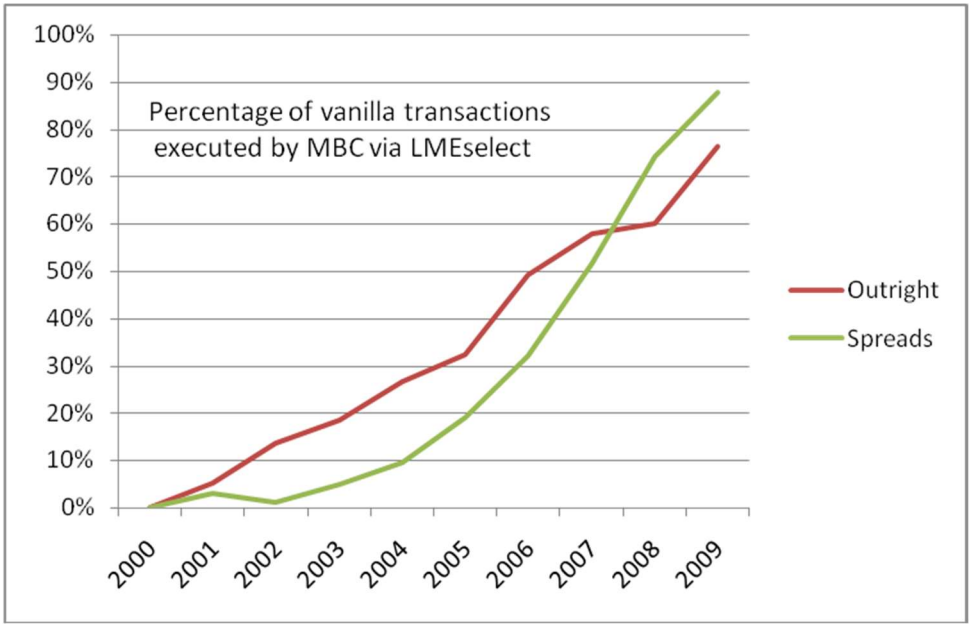


Figure 2 Growth in usage of e-Trading platform within MBC

Background information gathering, some of which can be gained by reviewing the Literature from [10] Jain, [11], Levecq and Weber, [12] Martens and [13] Tse & Zabotina.

1.4 Approach

The project was broken down into various stages, based upon a case study using Mitsui Bussan Commodities (MBC) as the base metals traders within the MCRM domain. This was compared against other MCRM companies, who are entirely independent, but undertake similar business who trade Energy and Precious Metals (MPM). In addition some external participants were also interviewed; this allowed triangulation of the findings to allow corroboration and support the validity of the findings from the MBC interviews and questionnaires and to illustrate its viability in a wider context, not only within the commodity markets, but perhaps other areas as well.

Whilst the case study will focus primarily upon the actual trading function, it also references the effect upon middle office and compliance areas.

Components parts of the Case Study

1.5 Survey / Interview

These focused upon what the differentiators are between phones (initiation to Transaction), E-trading (transaction) and IM conversation (initiation) and what it would need to allow IM to also provide a quasi E-trading functionality and actually conclude a transaction in a formalized manner. It is of course possible to reach an informal agreement over IM, but the structure of the component variables would not be consistent, which could lead to disagreement at a later stage.

Statement of the hypotheses to be tested;

“Is it possible to use IM as an e-trading platform?” How will this be answered?

The approach will be an analytical, empirical examination of the current trading environment within MCRM. This will provide the information necessary to create a gap analysis, showing what extended functionality the IM platform would require. Further interviews and investigation will highlight the technical hurdles which need be overcome to achieve this. When completed, and the following questions have been answered, the results will be reviewed by MCRM participants in order to assess the answer to the hypothesis.

Usability / Interaction enhancement:

• What is missing from current e-trading platforms in terms of Human Interaction?

• Can instant messaging provide the interaction which historically has been provided by phones and open outcry?

• Does IM introduce problems in terms of usage that e-Trading platforms do not have, as examples through conversational coherence and disrupted turn adjacency?

Technical:

• Can Instant Messaging provide the necessary performance, security and compliance requirements in order to be acceptable to the user domain?

• If not, what enhancements would be required?

• How could these enhancements be achieved?

• What form of platform would this require? (Public or private)

• Dependent upon the above, what are the scalability issues?

This will be derived from study of current E-trading platforms performance and security mechanisms v IM tools and from an analysis of technical interviewees' responses, technical journals and security related text books and websites.

Chapter 2. REVIEW OF LITERATURE

The numbers (n) refer to the references as detailed in the references section.

2.1 Literature

1 This paper describes the proposal for an extension of Session Initiation Protocol (SIP) called MESSAGE. This would allow the concept of a session to be applied as opposed to disconnected messages which are only part a conversation in the user interface / users imagination.

5 Discusses findings from an ethnographic study of IM for informal communication as opposed to formal, which the DS covers, some unexpected usages it defines as “Out-eraction” a set of communicated processes outside pure information exchange,

6 Addresses some of the problems relating to number of participants and windows, topic control and control of sequencing. All of which are relevant and can be problem-atical during the transaction process

7 Reasons corporate take-up of IM is (was?) blocked i.e. Security, Archival, Privacy, Cultural resistance and lack of perceived usefulness

8 Primarily concerned with conversational coherence and to an extent just rehashes old ground, but introduces two new challenges facing IM, that of “authority” and “multi-tasking”, although to answer the question of “Does multitasking work in the context of IM?” will need to find additional literature.

16 This article covers the relationship liberated perspective of computer mediated communication, and suggests that IM promotes rather than hinders intimacy. Moreover, frequent conversation via IM actually encourages the desire to meet face-to-face. Theoretical as well as practical implications of the results for geographically remote friends and families are discussed. This is from a social perspective, but believe parallels can be drawn in the commercial environment, especially on the marketing side.

22 Examines many of the problems presented by the expansion of what it terms “e-commerce” i.e. it is not focused upon e-trading but many of the issues still apply, such as interconnection, myriad forms content can take, non-repudiation etc. (many areas of book, p 244 for example)

35 This paper compares various forms of CMC (not IM) primarily involving the “rhythm” of conversations versus Speech. In particular the pauses or gaps as compared to speech. It refers to various analyses that point to a mathematical generalization in which the majority of the durations of the gaps are brief and longer “gaps” skew the distribution and that the distribution was exponential in nature. They further prove that when original analyses are plotted using modern tools, that a power law distribution fits better than an exponential one. In the context of IM in e-trading it’s conclusion that when there is a financial incentive for a quick response the response latency drops by more than an order of magnitude is borne out by the observations and interviews.

47 Addresses the “human” side to security, correctly describing organisations (in which the global derivatives trading business should be included) as socio-technical

systems. Given the nature of the business it is imperative that the human vulnerabilities aspect of security needs to be considered and dealt with.

48 A seminal book on various aspects of security and technology.

49 A Gartner review of the possible transference from a hosted IM solution to a SaaS basis, one of the possible options to consider within any solution fabric.

50 Discusses routing disruptions and the effect they can have upon availability and latency.

52 Discusses the viral uptake of SMS, which carried similarities to the uptake of CIM within the trading community.

2.2 Related Work

2 Discusses Threaded Text Chat a proposed means of overcoming some of the problems presented in IM conversation such as lack of visibility of turns in progress

4 An analysis of technical and managerial countermeasures to reduce potential security risks.

17 Consequences of IM worms and means to limit the dangers of their propagation.

18 A discussion and risk analysis on the security implications of using IM in a medical environment. Whilst This DS is not in the same arena, the risks involved and protective measure required will be similar.

23 What happens if a problem occurs? In the IM World this is obviously not clear, especially if using, free platforms such as Yahoo. While Messrs. Bachab and Piot describe quite clearly the helpdesk as normally understood their explanation serves as a useful gap analysis which would need to be addressed if IM were to become a viable solution (p272…)

26 This text book covers many aspects of security engineering both from a technical and procedural basis, all of which can be applied to IM.

27 An article in New Scientist detailing the rise in SPIM.

28 Discusses the importance of, and issues surrounding bandwidth and latency. It is a slightly older paper and surveys the issues from the viewpoint of modem users, so obviously does it discuss the issues in the context of instant messaging or electronic trading, but the underlying information relating to latency are pertinent.

29 Google Wave is considered (by Google) to be the next step in on-line communication. A magazine article that questions whether there will be a general uptake in the usage of Google Wave now it is open to the public in general. It is relevant to this project in that it improves collaboration and allows plug-ins, so in some ways incorporates aspects of the desired IM e-Trading solution.

30 Discusses latency primarily from the perspective of web pages, but does address problems with bottlenecks from DNS translation, providers servers etc.

31 This was a key paper, which outlined the problem of conversational coherence through disrupted turn adjacency and the disjointed way messages / conversations are held and also lack of immediate feedback, which to an extent is handled by Google Wave's interactive typing feature. The case study agreed to an extent that these were issues, however to a large extent users had adapted to the problems presented – "adaptive to the medium" (Herring, 1999). It also covered conversational drift, which appeared not to be an issue during the interviews, primarily because the subject matter being discussed was usually very focussed.

32 This textbook covered many facets of organisational behaviour, including that of the issues introduced in the interaction of different cultures. Despite the case study being very global in nature, the interviews did not indicate any major issues resulting from this, apart from perhaps one of less informal conversation from South East Asian participants.

33 Contrary to the findings from the interviews, this paper suggested a positive relationship between the amount of IM use and verbal, affective, and social intimacy. This was primarily from the viewpoint of friends using IM to communicate, so perhaps the context was not relevant.

34 Discusses limits of Buddy's (Contacts). There does not seem to be a lot of hard information on such limits, however the interviews revealed occasional issues when a user had a large amount of buddy's on their CIM platforms

36 References the changes brought about from the advent of the Internet – "Market Spaces" v "Market Places" This may be considered slightly spurious as telephones were used since the late 1800's (certainly from mid 1970's when direct lines were introduced) to replace the necessity for a purely physical venue.

41 Covers the origins of Jabber (XMPP) The suggested protocol for an extended IM platform.

51 Negative feedback on synchronous typing as carried by Google Wave, the option of which should be borne in mind for any extended IM solution.

2.3 Industry Sources

3 Although related to e-mail, authentication, message integrity and non-repudiation A review of this RFC showed the possibility of incorporating something similar into an XMPP based IM solution.

9 Discussed operational risk introduced by e-trading, giving some historical perspective.

10 Details issues which lead to a reduction in costs and liquidity improvement and creation of network externalities, brought about by the adoption of e-trading

11 Examines the design decisions involved in creating e-trading systems. Based on fundamentals relating to market structure (Actual exchange type futures or forwards), Order Type (At Best, GTC etc.), Execution priority rules. From a compliance perspective it covers price discovery, time stamping (time receive, time executed), and market transparency.

12 An older paper covering the differences in price discovery between open outcry and e-trading. Useful from a historical perspective, but also to draw parallels between open outcry and IM solution.

13 Investigates the perceived deficiencies in e-trading versus open outcry. From a flexibility perspective in executing complex trading strategies (Again to parallel voice - IM.

14 Useful from a view on how younger people, who are entering the business: Vis “On the level of language use, participants manipulated the tone, voice, word choice and subject matter of their messages to fit their communication needs, negotiating multiple narratives in the process.”

15 This paper provides evidence of a decrease in bid-ask spreads following the introduction of electronic trading, after controlling for changes in price volatility and trading volume. This provides support for the proposition that electronic trading can facilitate

higher levels of liquidity and lower transaction costs relative to floor traded markets. However, bid-ask spreads are more sensitive to price volatility in electronically traded markets, suggesting that the performance of an electronic trading system deteriorates during periods of information arrival.

19 Covers the rise of Enron Online an early e-trading platform and the understanding that fundamental to successful trading is speed, access to information the removal of human emotion (p214 & 222)

20 Perhaps Enron's most exciting development in the eyes of the financial world was the creation in 1999 of Enron Online (EOL) an electronic commodities trading Web site.

21 Covers general impact of technology on trading and the components of an electronic trading system (p44 and 64)

24 Addresses the concept of networks (which trading counterparties are) as "platforms"

25 This paper addressed the economic changes wrought by electronic trading. It covers not only the market architecture, but the effect it has upon market quality and the manner in which the network configuration of certain participants may place them at an advantage over other users. Market fragmentation does not really apply in base

metals, other than as it existed in voice via different physical market venues, but it does exist in energy and precious metals.

37 An article in which a software vendor describes the changes underway as a result of the global adoption of e-Trading and the cost benefits brought about as a result.

39 / 40 General description of history and functions undertaken by the LME

42 A discussion on the effects (and dangers of) of Algorithmic trading, excluded from the context of this case study, but needs to be considered in the frame of an extended IM platforms usage.

43 / 44 Articles on the changing roles of the AE as a result of e-Trading.

45 Description of a “Virtual Community” of which the global derivatives trading Diaspora is one.

46 / 53 Description of Reuters Messenger

Chapter 3. BACKGROUND

3.1 Historical usage and development

At the outset it should be noticed that the terms “Platform” and “Venue” can almost be used interchangeably as platforms have virtualized the venue.

For centuries, transaction of business in the Base Metal commodity markets was undertaken face to face. In the last century the possible venues expanded with the advent of, telegraph, telex and telephone. Most of these changes occurred over an extended period of time. Towards the end of the 20th Century with the advent of technological changes delivered by the internet and IP connectivity, rapid, industry changes began to occur.

The primary purpose of the LME and other financial markets were and still are, to enable merchants and other market participants to insure (hedge) against financial loss due to price movements of non-ferrous metals. As an example if a consumer of Copper had bought Copper from a Chilean producer at a fixed price, he would be exposed to any price fluctuations during the Three Month shipment period from Santiago to London (This is actually the origin of the Three Month price). To avoid this he could “hedge” the risk on the LME by selling the same quantity to an LME member who may have had a customer on the other side wanting to hedge their risk from a producer’s perspective, thereby eliminating the potential of loss. Speculators interested in investing in the commodity markets would provide some of the liquidity and risk appetite.

Key considerations were an open, “visible” market, allowing companies to hedge their risk in an orderly, open and liquid market. The London Metal Exchange in its present form was established over 130 years ago, although its origins can be traced back to the opening of the Royal Exchange in London around 1571 (LME, 2010). The methodology has always been based upon a “Ring” (known as a pit or floor in other open outcry markets) in which members transact business via open outcry, the culmination of which is establishment of a daily reference price (known as the settlement price) which is used globally for producers and consumers to fix the prices they establish contracts at.

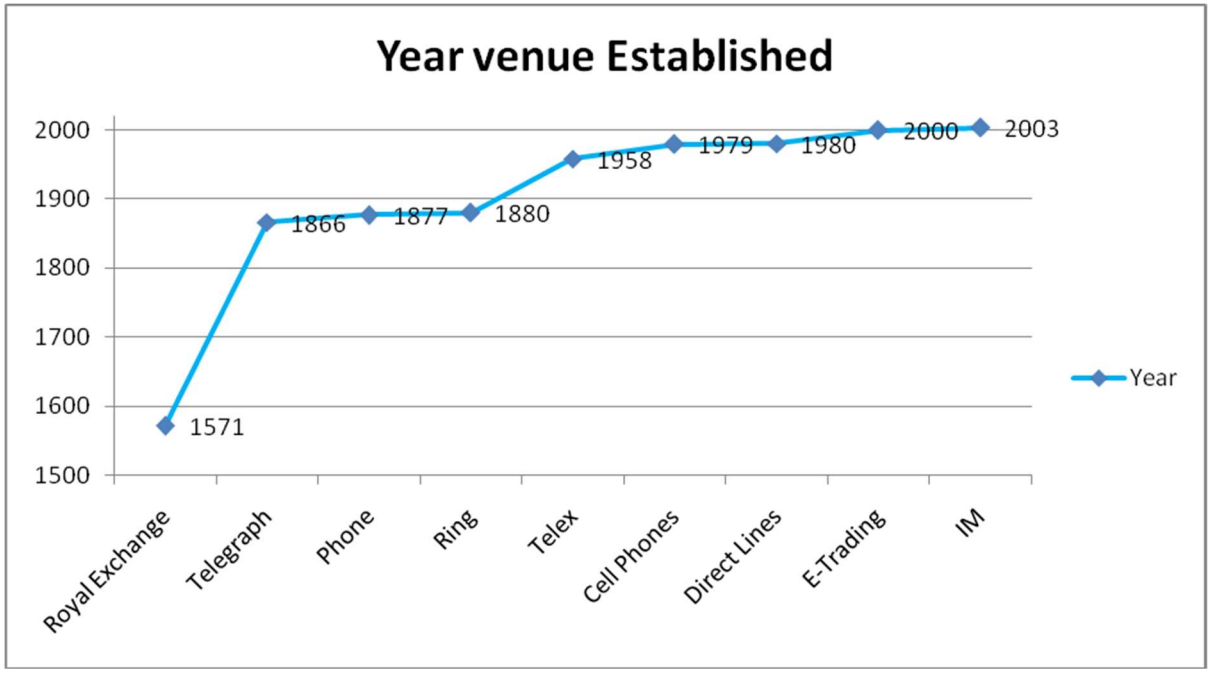


Figure 3 Year venues introduced

The LME’s instrument and date structures have a greater degree of granularity, comprising around 102 dates for up to 6 months forward as opposed to 6 in other markets. As such, it requires a greater level of human interaction than most other markets. A lot of whom at exchange level, have migrated totally to electronic trading platforms. Consequentially the LME runs electronic trading (LMEselect) alongside the floor and

phone trading operations. Whilst the telephone is considered the most effective method of providing this in the context of non-physical venues (rather than face to face such as trading pits or rings), the advent of IM has reduced usage of phone communication (this has been quantitatively confirmed by analysis of historical phone usage within the MCRM group, details of which cannot be released). Some markets as alluded to by Glen Chalkley, almost immediately switched to totally electronic.

There are many facets to e-Trading and some of the developments such as algorithmic and high frequency trading are developments that would have been difficult to execute prior to the advent of e-Trading platforms. There has also been a split in the customer base who use e-Trading with financially based clients (funds etc.) migrating towards exclusive usage of e-Trading, whereas industry based customers prefer phone usage especially for more complex transactions which have not been successfully replicated in electronic order routing systems.

As acknowledged by Glenn Chalkley, the LME's head of electronic market development, during his interview, IM's rapid uptake caught many in the business by surprise.

IM has many definitions such as "a text-based computer conference over the Internet between two or more people who must be online at the same time" (Montecino, 2004), communication is generally semi synchronous / asynchronous. It takes many forms and has been in existence for many years, initially in private computer networks, and then in the Internet based networks such as CompuServe and the UNIX version ICQ. In the commodity derivatives environment it can primarily be broken down into IM over private networks (Bloomberg, Reuters etc.) and public (Yahoo, MSN etc.) There are also industry specific aggregator's. To an extent IM has replaced the usage of phones

for communication, especially in terms of conference chats between members of dealing desks and subsets of the trading community. Gartner states that in the general enterprise community there has been low adoption of IM, (around 35%-40% penetration) although it is expected to increase to 90% by 2013 (Smith, 2009). Within the financial industry however penetration is far greater (almost 100% with in front office function of MCRM group)

As can be seen below, all of the respondents felt there had been a large reduction in client and customer verbal interaction and in some cases a total reduction in counterparty verbal communication. This was not viewed favourably in terms of losing the flavour and nuance of the markets.

Total	0%	25%	50%	75%	100%
Customer	1	5	4	1	1
Counterparty	0	0	1	8	2
Desk	2	5	5	0	0

Figure 4 Respondent views on reduction in verbal communication

Enterprise IM networks based upon platforms commercially produced by vendors such as Microsoft (Office Communications Server), IBM and Oracle have not tended to operate in the industry in a federated sense, although as mentioned elsewhere, Reuters have an industry specific platform called Reuters Messenger, which has direct access to over 140,000 users (Wikipedia, 2010), 128bit encryption and a built in regulatory compliance service.(Reuters, 2010) Bloomberg have also created a platform focused upon the financial services industry. Both of these should be considered as solution providers, but the lack of openness does raise issues.

3.2 E-Trading platforms

These come in many shapes and sizes, but usually carry similar functionality in that bids and offers can be entered to match the price desired. These can either be done electronically or via human input and review. It can also be divided into business to business (counterparty to counterparty) which is usually exchange based between participant banks and brokers and the systems setup between the brokers and their clients. Often these platforms take the form of internally developed or ISV provided. The below screenshot shows an LMEselect screen, with the bid, offer, quantity, along with price data, order book and completed transactions. It should be noted that quantities entered can often be adjusted algorithmically to avoid the market knowing the total volume (these are known as “Iceberg” orders).

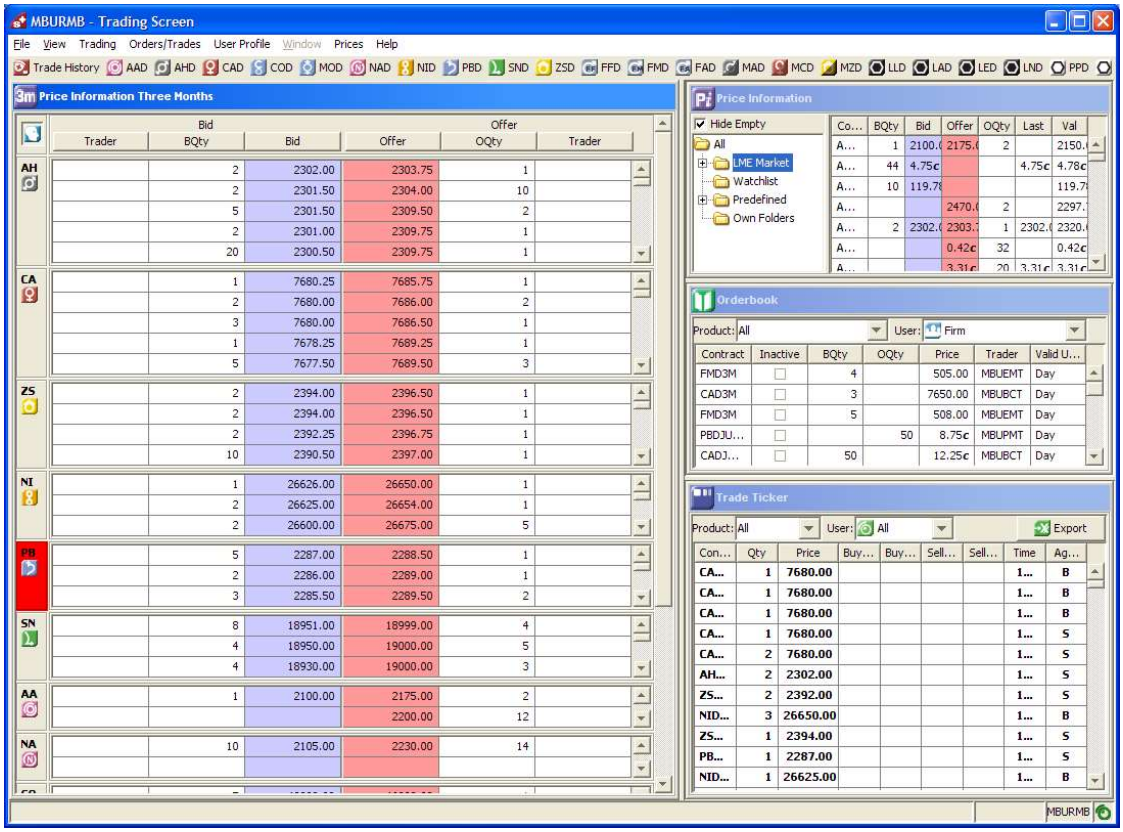


Figure 5 LMEselect Screen

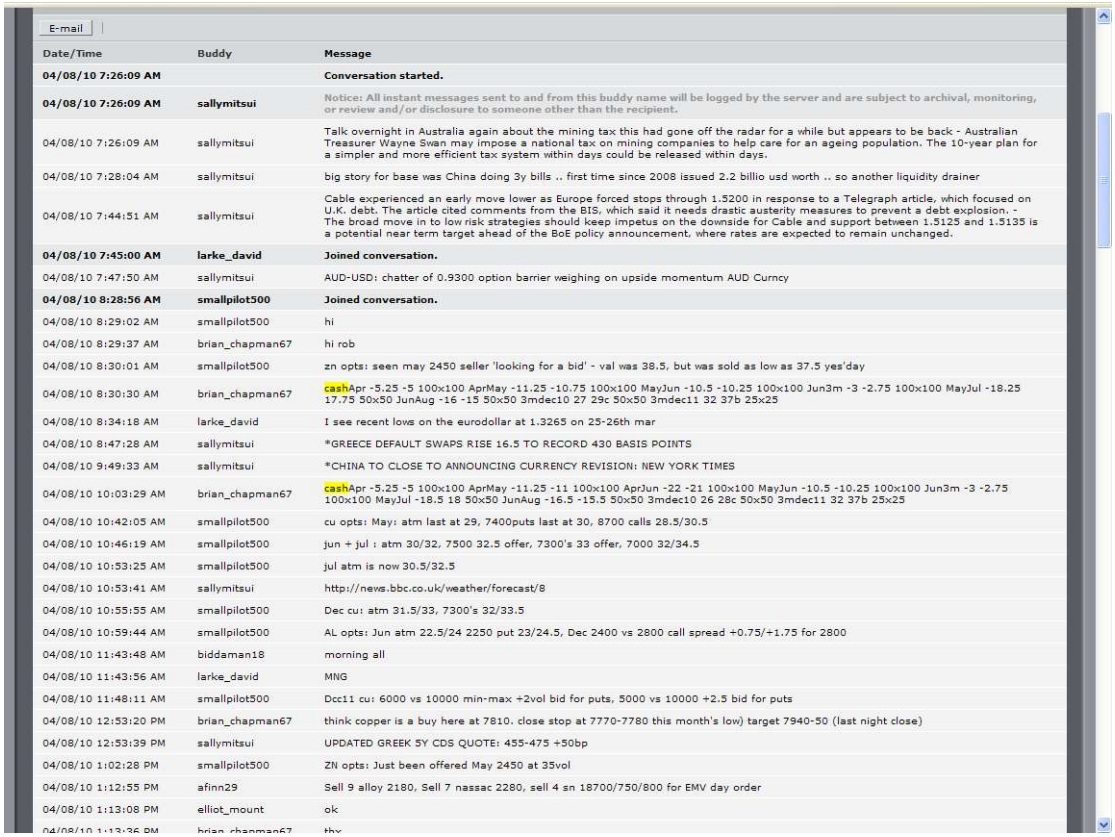
LMEselect screen

The above screen shows for Aluminium that 2 lots are bid at US$2,302 and 1 lot offered at US$2,303.75, therefore if you wished to buy you would need to enter a bid at US$2,303.75. There are various rules governing order of execution in relation to timing of the order entry to ensure a fair and orderly market. All trading is anonymous until the transaction is completed, at which time the counterparty will be revealed.

3.3 Instant messaging usage in the market

Usage of IM within the derivatives industry is wide spread and covers dissemination of market information, prices, RFQ's and orders. Growth of Instant messaging usage, has to date been informal and has parallels with that of the random walk characteristics shown by the adoption of SMS messages, where the providers had not anticipated the scale of usage and popularity (Trosby, 2004)

The below extract is an example of a conference, but could equally be applied to a one-on-one conversation



E-mail

Date/Time	Buddy	Message
04/08/10 7:26:09 AM		**Conversation started.**
04/08/10 7:26:09 AM	**sallymitsui**	Notice: All instant messages sent to and from this buddy name will be logged by the server and are subject to archival, monitoring, or review and/or disclosure to someone other than the recipient.
04/08/10 7:26:09 AM	sallymitsui	Talk overnight in Australia again about the mining tax this had gone off the radar for a while but appears to be back - Australian Treasurer Wayne Swan may impose a national tax on mining companies to help care for an ageing population. The 10-year plan for a simpler and more efficient tax system within days could be released within days.
04/08/10 7:28:04 AM	sallymitsui	big story for base was China doing 3y bills .. first time since 2008 issued 2.2 billio usd worth .. so another liquidity drainer
04/08/10 7:44:51 AM	sallymitsui	Cable experienced an early move lower as Europe forced stops through 1.5200 in response to a Telegraph article, which focused on U.K. debt. The article cited comments from the BIS, which said it needs drastic austerity measures to prevent a debt explosion. - The broad move in to low risk strategies should keep impetus on the downside for Cable and support between 1.5125 and 1.5135 is a potential near term target ahead of the BoE policy announcement, where rates are expected to remain unchanged.
04/08/10 7:45:00 AM	**larke_david**	**Joined conversation.**
04/08/10 7:47:50 AM	sallymitsui	AUD-USD: chatter of 0.9300 option barrier weighing on upside momentum AUD Curncy
04/08/10 8:28:56 AM	**smallpilot500**	**Joined conversation.**
04/08/10 8:29:02 AM	smallpilot500	hi
04/08/10 8:29:37 AM	brian_chapman67	hi rob
04/08/10 8:30:01 AM	smallpilot500	zn opts: seen may 2450 seller 'looking for a bid' - val was 38.5, but was sold as low as 37.5 yes'day
04/08/10 8:30:30 AM	brian_chapman67	cashApr -5.25 -5 100x100 AprMay -11.25 -10.75 100x100 MayJun -10.5 -10.25 100x100 Jun3m -3 -2.75 100x100 MayJul -18.25 17.75 50x50 JunAug -16 -15 50x50 3mdec10 27 29c 50x50 3mdec11 32 37b 25x25
04/08/10 8:34:18 AM	larke_david	I see recent lows on the eurodollar at 1.3265 on 25-26th mar
04/08/10 8:47:28 AM	sallymitsui	*GREECE DEFAULT SWAPS RISE 16.5 TO RECORD 430 BASIS POINTS
04/08/10 9:49:33 AM	sallymitsui	*CHINA TO CLOSE TO ANNOUNCING CURRENCY REVISION: NEW YORK TIMES
04/08/10 10:03:29 AM	brian_chapman67	cashApr -5.25 -5 100x100 AprMay -11.25 -11 100x100 AprJun -22 -21 100x100 MayJun -10.5 -10.25 100x100 Jun3m -3 -2.75 100x100 MayJul -18.5 18 50x50 JunAug -16.5 -15.5 50x50 3mdec10 26 28c 50x50 3mdec11 32 37b 25x25
04/08/10 10:42:05 AM	smallpilot500	cu opts: May: atm last at 29, 7400puts last at 30, 8700 calls 28.5/30.5
04/08/10 10:46:19 AM	smallpilot500	jun + jul : atm 30/32, 7500 32.5 offer, 7300's 33 offer, 7000 32/34.5
04/08/10 10:53:25 AM	smallpilot500	jul atm is now 30.5/32.5
04/08/10 10:53:41 AM	sallymitsui	http://news.bbc.co.uk/weather/forecast/8
04/08/10 10:55:55 AM	smallpilot500	Dec cu: atm 31.5/33, 7300's 32/33.5
04/08/10 10:59:44 AM	smallpilot500	AL opts: Jun atm 22.5/24 2250 put 23/24.5, Dec 2400 vs 2800 call spread +0.75/+1.75 for 2800
04/08/10 11:43:48 AM	biddaman18	morning all
04/08/10 11:43:56 AM	larke_david	MNG
04/08/10 11:48:11 AM	smallpilot500	Dcc11 cu: 6000 vs 10000 min-max +2vol bid for puts, 5000 vs 10000 +2.5 bid for puts
04/08/10 12:53:20 PM	brian_chapman67	think copper is a buy here at 7810. close stop at 7770-7780 this month's low) target 7940-50 (last night close)
04/08/10 12:53:39 PM	sallymitsui	UPDATED GREEK 5Y CDS QUOTE: 455-475 +50bp
04/08/10 1:02:28 PM	smallpilot500	ZN opts: Just been offered May 2450 at 35vol
04/08/10 1:12:55 PM	afinn29	Sell 9 alloy 2180, Sell 7 nassac 2280, sell 4 sn 18700/750/800 for EMV day order
04/08/10 1:13:08 PM	elliot_mount	ok
04/08/10 1:13:36 PM	brian_chapman67	thx

Figure 6 Sample of IM usage

Chapter 4. STAGE ONE

To identify, reference and map each stage in the life-cycle of the transaction process, from initial consideration and negotiation, through to decision to trade and fulfilment. This was accomplished by observing dealers concluding and discussing transactions, and survey and interviews of MCRM users and other Buy Side and Sell side organizations and literature search.

The interviews were [Level 1] Questions asked of specific interviewees and [Level 2] about the case subject. The end-result was to be a chronologically written description of the transaction process and decision points, along with a Time-Function map, graphically portraying the process.

The interview process was not straightforward as access to the traders was difficult to obtain. They tend not to be naturally communicative in such scenarios, are usually extremely focused upon their job. Therefore, the focus on the discussions the parts of the interview was framed by surveys undertaken using survey monkey ©, with subsequent conversations on an ad-hoc basis.

A number of interviews were carried out by phone due to geographical constraints.

4.1 Interview Population:

Co.	Location	Job	Name	Title
Base Metals				
MBCI	NY	Trader	S Kanner	Arb Trader
MBCA	Sydney	Marketer	R Holmes	President MBCA
Withheld	Shanghai	Trader	Withheld	Withheld
MBCI	NY	Marketer	A Ulusal	VP Marketing
Withheld	H Kong	Trader	Withheld	VP
Mitsui	Tokyo	Trader	S Ikezaki	VP Trading
Withheld	London	Broker	Withheld	Option Desk
MBC	London	Trader	E Mount	Head of trading
MBC	London	Marketer	S Hemsley	Head of Inst Sales
MBC	London	Compliance	M Butler	Compliance Officer
Other Markets				
MPM	NY	Marketer	R Sawhney	VP Marketing
MPM	London	Trader	C Pfeifer	Head of Trading LDN
MERM	New York	Trader	S Davis	VP Trading
MERM	Singapore	Trader	C Mounsey	VP Trading
MPM	London	Trader	Tony Walters	VP Trading
Other Issues				
LME	London	Manager	G Chalkley	Head of E- Mkt. Dev.
e-Pulse	London	IM	B Patel	Managing Director

Figure 7 Interviewees

For someone unfamiliar with the industry, to understand the functions a short description of the roles involved is necessary.

4.1.1 Dealer

A trader's role is to manage market risk for his portfolio and speculate on the movements of the market, by understanding the market and hopefully there being able to predict its behaviour in order to make a profit on these movements. In most cases a trader will not be liaising with the clients directly, more usually the AE will be the conduit of the trade flow.

4.1.2 Broker

Brokers do not assume positions rather match up the buyers and sellers, the value add being anonymity between participants (if required) and their access to a wider range of participants in the market. The broker's role is the one under the greatest threat with the advent of e-Trading.

4.1.3 Marketer / AE (Account Executive) / Sales Desk

AE's are the people who will normally liaise with the clients, keeping them informed of market developments, taking orders etc.

4.2 Front Desk Experience of participants

Rather than base the demographics' upon the ages of those surveyed, an analysis of the length of career, spent in a front desk role was undertaken. This allowed a review of any differences of opinion between those who had never known anything other than an e-Trading / IM environment and those who had experienced both traditional and the newer electronic platforms.

LME	
Non -LME	
Combined	

Figure 8 Participant Key

LME participant - Years experience	%
Under 5	14%
5 to 10	0%
10 to 15	43%
Over 15	43%

Table 1 LME participant years of experience

Non-LME participant, Years exp.	%
Under 5	2%
5 to 10	2%
10 to 15	2%
Over 15	0%

Table 2 Non LME years of experience

As can be seen from the above tables, the LME participants had been participating in the markets for considerable longer than their counterparts in the energy and precious metals markets. For the energy markets, this can be explained by their relative new-ness in a venue based sense, for the precious metals desks, more as a result of the age group. A review of the results and subsequent discussions, did not reveal any significant difference in opinion between the “pre” and “post” e-Trading participants

The various platforms used are quite extensive, but it can immediately be seen that phone and IM are the most frequently used. A surprising number of orders taken are being carried out via e-mail. Following on from the interviews it became apparent that, the breadth of platforms / venues used did cause a little confusion, particularly where usage by precious metals traders of a product called Reuters Dealing 2000 was con-cerned, as it is essentially a closed messaging system, allowing participants to ask for bids / offers exchange market data etc. This has been placed into the IM results along with the Reuters and Bloomberg closed messaging systems.

Platforms Used (Combined)	Discuss	Trade	Conference
Phone	13	15	6
IM	13	12	5
e-Mail	12	12	5
E-Trading	0	19	0
Telex (No longer used)	5	7	0
Other Electronic	0	9	0

ISV	0	9	0
Ring / Pit	1	6	0
SMS	5	1	1
Other	1	1	0

Table 3 Purpose for which platforms are used

4.3 IM Platform usage

A requirement for consideration of an enhanced IM platform is that of closed versus open systems, which carries cost, security and scalability issues. Both groups tended to show similar results in terms of platforms used, with the open Yahoo being the favoured solution.

IM Platform Usage LME	Often	Sometimes	Never	Rating
Yahoo	7	1	1	15
Reuters (Closed)	4	3	2	11
Bloomberg (Closed)	5	0	4	10
MSN	0	5	4	5
AIM	0	3	6	3
OTC Trader Part Closed)	1	0	8	2
Other	1	0	4	2
Gmail	0	0	8	0
Weighting	2	1	0	

Table 4 LME platform usage frequency

IM Platform Usage (Non LME)	Often	Sometimes	Never	Rating
Yahoo	4	2	0	10
Bloomberg	4	0	2	8
Reuters	3	2	1	8
Gmail	1	1	4	3
OTC Trader	1	1	4	3
Other	1	0	4	2
MSN	0	1	5	1
AIM	0	1	5	1
Weighting	2	1	0	

Table 5 Non-LME platform usage frequency

In order to understand why this usage preference existed, a further question was put to the participants asking them to rank the reason for the preference.

Reasons for usage LME	Critical	High	Medium	Low	Rating
Customer Request	5	4	0	0	32
Most used in Market	4	4	1	0	30
Counterparty Request	2	6	1	0	28
Ease of Use	2	6	1	0	28
Functionality	2	5	0	2	25
Security	3	1	4	1	24
Privacy	3	1	3	2	23
Weighting	4	3	2	1	

Table 6 LME Usage drivers

Reasons for usage (Non LME)	Critical	High	Medium	Low	Rating
Customer Request	2	3	0	0	17
Counterparty Request	2	3	0	0	17
Most used in Market	1	2	2	0	14
Ease of Use	1	2	2	0	14
Security	1	2	1	1	13
Privacy	1	2	1	1	13
Functionality	1	2	0	2	12
Weighting	4	3	2	1	

Table 7 Non-LME usage drivers

Again there is a strong correlation between LME and Non-LME stating that the main reasons were Customer request and Counterparty Request, which is of course also linked to market usage.

4.4 Rating Platforms for different usages

Having gained a greater understanding of the platforms used and the reasons behind the usage, it was now necessary to introduce a little more granularity in terms of usage for different functions.

4.4.1 Discussing

The survey response indicated a strong preference for usage of the phone to carry out everything but vanilla transactions, and also an increasing liking for using IM in a non-formal sense.

Discussing / Constructing LME	Best	Mod	Poor	Worst	Rating
Phone	8	2	0	0	38
IM	2	6	2	0	30
e-Mail	0	7	2	1	26
LMEselect		2	2	0	14
ISV		0	2	1	9

Table 8 LME usage ratings

Discussing / Constructing Non LME	Best	Mod	Poor	Worst	Rating
Phone	5	1	0	0	23
IM	2	3	0	0	17
e-Mail	0	4	1	0	14
Electronic Platform	0	0	0	4	4
ISV	0	0	0	4	4
Weighting	4	3	2	1	

Table 9 Non-LME usage rating

4.4.2 Concluding Vanilla transactions

Even though IM has no formal conclusion mechanism[2], it still surprisingly was preferred, even though any agreement reached would then need to be followed up via phone or e-mail.

Concluding 3M LME	Best	Mod	Poor	Worst	Rating
Phone	4	5	1	0	33
IM	2	4	4	0	28
LMEselect	5	2	0	0	26

[2] Concluding a trade by IM is not considered to be a formal agreement in the same sense as an e-Trading platform would be binding.

ISV	3	2	0	0	18
e-Mail	0	2	3	5	17
Weighting	4	3	2	1	

Table 10 LME Vanilla usage rating

The non-LME respondents however, preferred e-Trading platforms over IM, ranking it the same as the telephone. Discussion with the participants seemed to indicate that this disparity was due to the aforementioned structure of the LME's forward date system.

Concluding Vanilla Outright non LME	Best	Mod	Poor	Worst	Rating
Phone	4	2	0	0	22
Electronic Platform	4	2	0	0	22
IM	3	3	0	0	21
ISV	3	1	0	0	15
e-Mail	0	1	4	1	12
Weighting	4	3	2	1	

Table 11 Non-LME Vanilla usage rating

4.4.3 Concluding Non-Vanilla transactions

However, there is a requirement for human engagement in other, more complex, structured, discussions such as trades that require the purchase and sale of different dates that are not the Three month date or volume month on other exchanges.

The below results clearly show that e-Trading platforms are less favoured as the venue for carrying out any non-vanilla date related transactions.

Concluding non 3M LME	Best	Mod	Poor	Worst	Rating
Phone	7	3	0	0	37
IM	3	6	0	0	30
e-Mail	1	4	5	0	26
LMEselect	1	5	0	0	19
ISV	2	1	1	0	13
Weighting	4	3	2	1	

Table 12 LME Complex outright usage rating

Concluding Complex Outright Non	Best	Mod	Poor	Worst	Rating

LME					
Phone	5	1	0	0	23
IM	2	4	0	0	20
e-Mail	1	4	1	0	18
Electronic Platform	0	3	2	1	14
ISV	0	1	1	2	7
Weighting	4	3	2	1	

Table 13 Non-LME Complex outright usage rating

4.4.4 Averaging / Swaps

A “swap” (called “Averaging” on the LME) transaction is cash settled transaction whereby two counterparties exchange the net result of the cash flows resulting from each side of the swap. In simplest terms this could be someone selling Copper at a fixed price and buying it back at an average price calculated over an agreed period. On most exchanges other than the LME, these can in fact be concluded electronically, however on the LME as they are OTC transactions, the facility to trade them is not offered on LMEselect. Even so only one respondent in the interviews considered an e-Trading platform to be the best method of carrying them out. Whilst not necessarily complicated transactions the term, reference price and volumes can require discussion and negotiation.

Concluding Swaps LME	Best	Mod	Poor	Worst	Rating
Phone	8	2	0	0	38
IM	2	7	1	0	31
e-Mail	1	5	4	0	27
LMEselect	0	0	5	0	10
ISV	0	0	3	0	6
Weighting	4	3	2	1	

Table 14 LME Swaps usage rating

The e-Trading platforms, fare a little better in the non-LME segment, primarily due to the simpler dater structure, however IM is second only to the phone.

Concluding Swaps Non LME	Best	Mod	Poor	Worst	Rating
Phone	5	1	0	0	23
IM	4	2	0	0	22
Electronic Platform	1	3	1	1	16
e-Mail	0	4	1	1	15
ISV	0	1	2	1	8
Weighting	4	3	2	1	

Table 15 Non-LME Swaps usage rating

4.4.5 Option strategies

An option is the right to buy or sell the underlying, but not an obligation. For this the purchaser of the option can purchase the right to buy or sell and then decide whether to take that option at a later stage. Nearly all e-Trading platforms offer some form of functionality to trade vanilla options, but few appear to attract much volume. The below chart illustrates the volume that traded on LMEselect from September 2001 to March 2010 against outrights are too small to show effectively on a graph being just under 0.09%

Instrument	Lots
Outrights	25,126,950
Carries	22,650,659
Options	5,523

Table 16 Options concluded on LMEselect 2001-2009

(Non-vanilla options such as digitals, barriers etc (the definitions of which are beyond the scope of this paper), require even more discussion and structuring, and there is as yet, no widely traded platform available for these.)

As can be seen from the below results, IM is again preferred to an e-Trading platform in both LME and non LME market segments.

Concluding Options LME	Best	Mod	Poor	Worst	Rating

Phone	7	2	0	0	34
IM	3	4	1	0	26
e-Mail	1	4	4	0	24
LMEselect	0	0	5	0	10
ISV	0	0	2	1	5
Weighting	4	3	2	1	

Table 17 LME Options usage rating

Concluding Options Non LME	Best	Mod	Poor	Worst	Rating
Phone	5	1	0	0	23
IM	4	2	0	0	22
Electronic Platform	2	1	3	0	17
e-Mail	1	2	2	1	15
ISV	0	1	3	0	9
Weighting	4	3	2	1	

Table 18 Non-LME Options usage rating

4.5 Summary

As can be seen from the above results, Human Interaction is a key factor to the ongoing success of not only base metal operations, but also those of other commodity markets. Usage of IM which encourages human interaction during the transaction process is therefore desirable. To an extent a user-driven initiative has already introduced IM into the market; however there is no formality or additional functionality embedded in the IM platforms used to formalize the transaction process. There were slight differences between the LME and non-LME segments, but overall those transaction mechanisms with conversational ability were the most favoured. One respondent raised the interesting point, that if you were not at your machine, and did not use phone based IM, you were “out-of-the loop”, which is perhaps something UC could address in the future.

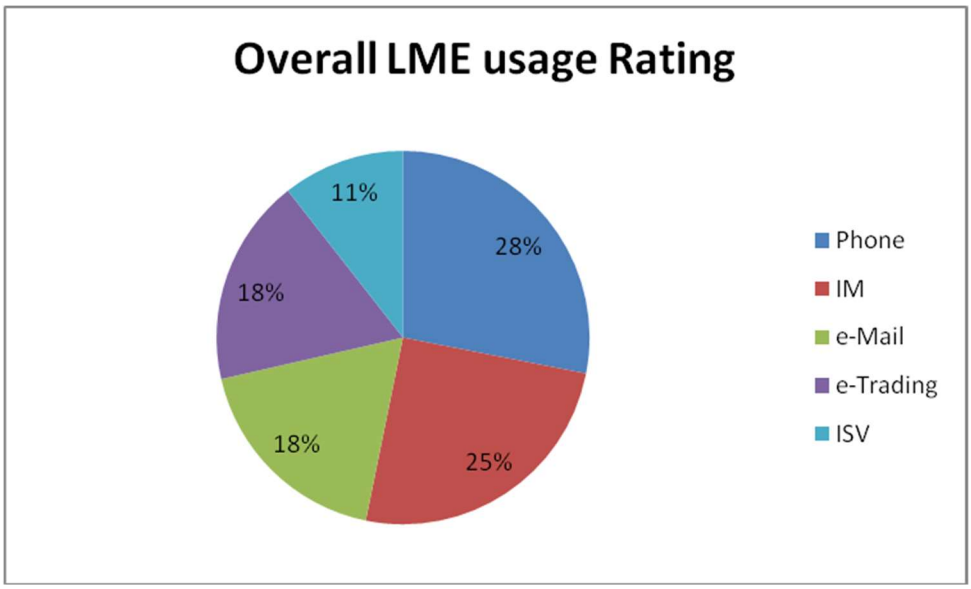


Figure 9 Overall platform usage rank

Chapter 5. STAGE TWO

5.1 Usage issues

What challenges does IM present in its usability, in terms of how

People use it, the difficulties presented?

[2] Cadiz, [5] Nardi et al, [6] O'Neil & Martin [8] Woerner et al, [14] Lewis &

Fabos, [16] Yifeng et al

5.1.1 Conversational Coherence

A frequent comment that arose, during the interviews were those of the confusion that could sometimes occur, with comments such "IM can be prone to be misunderstood", "Costly mistakes can occur because of misunderstandings". In a paper written by Woerner et al, Computer-mediated communications (CMC) of which IM is a part are described as being incoherent (fragmented, agrammatical, and interactionally disjointed) (Woerner et al, 2006), yet the users appear able to overcome and adapt to these obstacles and use it successfully. Interestingly the above paper makes the distinction between internal collaboration (desk conferences in the context of this project) and external communications (IM with a client or counterparty). In the context of this project this does not appear to be relevant as all parties use IM in a similar fashion.

5.1.2 Asynchronous vs. Synchronous / Adjacent turn disruption.

Conversational coherence is also not helped by the asynchronous nature of IM. Newer incarnations such as Google Wave which allow "live typing" overcome this by building

in synchronous communication, although there are many who feel this functionality should be disabled to quote Derek Thomson in his blog “If I’m giving or receiving advice about important issues, I want to make sure that it is calibrated to be honest and palatable. I can't always do that on a first draft.” (Thompson, 2009). It is suggested therefore that an extended IM platform should have the option of live typing, but not be made mandatory. An issue which was mentioned during the observations is that the typing process is slower than speech over the phone and in times of volatility this can introduce a business risk. The proposed solution to this is covered later in this submission.

5.1.3 **Buddy Limits**

Another factor raised in the interview process was that of buddy chat congestion and the possibility that aspects of a conversation can be missed when lots of conversations are ongoing, this is also a factor in the following section relating to screen real-estate, which has become a general problem, caused by a number of factors, not only related to the topics covered in this project. This not such a factor on trading floors and via phone based squawk box systems as volume and intonation can be used to focus the conversation. A potential solution to this problem is covered in the proposed design.

It is also noted that there are limits imposed by the system providers on the number of contacts / buddies a user can have. Indications on non-system sights indicated the figure to be 1000 for most CIM systems, although users indicated that anything above 300 can be problematical.

5.1.4 Screen Real Estate

Screen real estate is a real issue for people working in financial markets and as such restricts the amount of IM “Buddies” that can be chatted to and seen at any one time

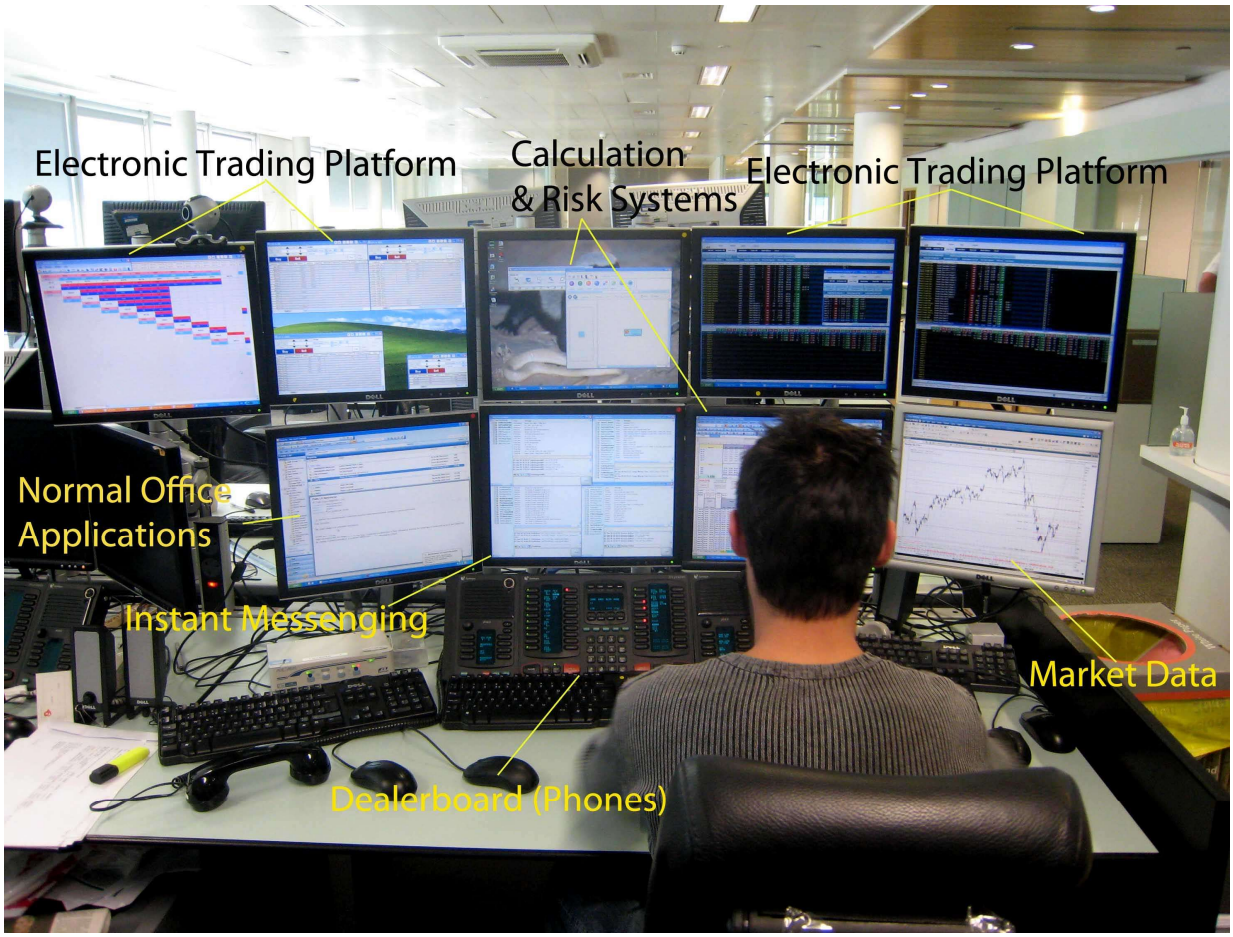


Figure 10 Dealers Desk screen layout

Traders will often have eight or more screens containing various market information feeds, e-Trading systems, spreadsheets, IM and general or specialized office applications, so consideration needs to be given to reducing, or at least not adding to the already over burdened screen real estate. As can be seen from the above picture, four of nine screens are devoted to e-Trading, whereas only one uses IM (via an aggregator).

5.1.5 **Language**

IM conversations are not as good as speech and can sometimes be misconstrued. All of the interview respondents appeared to regret the decrease in verbal communication, both within their offices and externally. Hu et al, discuss the two conflicting approaches to online relationships, those of “lost” and “liberation” (Hu, 2004), lost being shallow and impersonal whilst liberation removes the constraints of physical locality. In the context of this project, both approaches have elements that benefit constructional and transactional activity. Hu et al also state that IM is arguably more suitable for task-oriented activities, but a weak medium for developing relationships. Whilst this may be true, in the context of this project, IM is obviously superior to e-trading platforms which have zero human interaction. They further assert that users develop the skills to decode textual clues to form interpersonal relationships, which are born out from the interviews which additionally point out that the industry specific shorthand is also used and understood. Interestingly there was very little usage of emoticons in the discussions of the interviewees reviewed. An interesting benefit of using IM is the ability to take time to think about and develop the text, which you cannot usually do to the same extent in face to face communication.

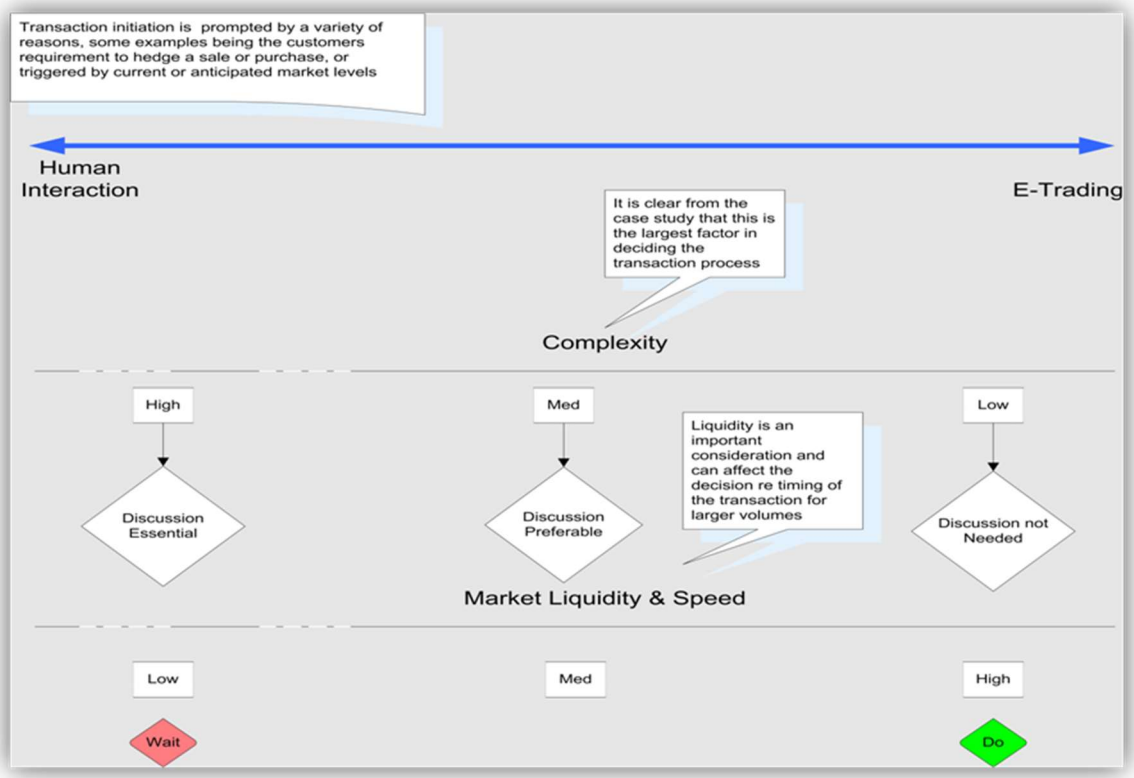


Figure 11 Transaction Route

5.1.6 Multiple conversations

Smith et al state that people have an inability to listen to two or more people speaking at the same time for very long and that IM can improve upon this deficiency (Smith, 2000). Whilst the inability to listen to multiple speakers may be debatable in the context of face to face or phone over speaker during market times, it is a fact that IM allows organisation of contacts into logical groups, both electronically and visually on the screen and to hold multiple conversations at the same time.

5.1.7 Kill Button

Many of the respondents involved in the case study, referred to occasional misunderstandings caused by lack of immediate feedback being a weak point of IM. This can cause problems, but can also be used to advantage, providing “thinking time”. However in circumstances where a dealer has quoted a price, they need to be able to withdraw that bid or offer if the market moves. To do this over the phone is a simple matter of shouting “out” or similar. This is not as simple in IM as the dealer would need to type a short message which takes a few seconds longer. A suggestion that has arisen from this research is to provide “kill” button on the extended IM platform

5.2 Security

As Anderson states, “there are many attacks and defences which emerge once we have large numbers of machines networked together” (Anderson, 2008, p634), an additional incentive introduced in a network of e-trading application participants would be the high value of the transactions and resultant financial advantage which could be gained by anyone organisation or person eavesdropping.

5.2.1 Integrity of the data, authentication and susceptibility to malware

[1] Campbell et al, [3] Housley, [4] Kim & Leem, [17] Mannan & Oorschot, [18]

Given the consequences of unauthorized transactions, which could result in million dollar losses, possible bankruptcy and the attendant fallout and human misery, security is of paramount importance.

The transactional landscape covered in this project involves human interaction and as Bruce Schneier states, “"Security is a chain, and people are the weakest link in the

chain." (Schneier, 2004), we therefore have a human problem, which can be supported by technology, but not overcome by technology.

So how can we try to reduce the human element of risk? At an organizational level, security can be managed on a policy driven command and control basis, but this often tends to be inflexible, leading to user evasion. One implementation, favoured by some organizations to try to ensure that a systemic approach to security is properly thought out and applied by following the ISO 27001 certification path, however this can often as pointed out by Anderson lead to an exercise in “ass-covering and box ticking”, that replaces chaos with bureaucratic chaos (Anderson,2001, p865).

Education of the participants is essential. The case study was informative in that the surveys and interviews revealed that some participants gave scant regard to the security or privacy and did not consider security as a critical consideration in deciding which IM platform to use, furthermore in the interviews some of the participants had no interest in the underlying technology, rather viewing it in an abstract sense as a tool to be used similar to a telephone.

Strauss recommends that blame free incident reporting should be implemented, with an incident being seen as a learning opportunity. This is highlighted as “double loop learning” in which “single-loop” is command based and does not actually learn anything, whereas Double-loop is a continuous improvement. A case in point is whereby in normal usage it is good practice to set the workstations screen saver to automatically lock the machine after nn minutes of inactivity, thereby reducing the risk if the user walks away without locking their machine. This is not possible in a trading environment, where the screen will be constantly viewed, but there will be no interaction between the dealer and the PC unless transactional activity takes place. Since the solution would be implemented in a federated manner with external, possibly public IM

networks connecting via gateways, it would seem to be sensible for the solution to be centrally managed, rather than at organisational level.

Bones et al, [22] Calder & Watkins, [23] Baschab & Piot

5.2.2 Authentication

The most common access control is the password, however this does not guarantee that the participants are not communicating with another person who may have encountered an unlocked PC which could bring the transaction into question, so a multi-factor authentication method would be the preferred route, perhaps utilizing password and a biometric device such as that currently utilized by Bloomberg (although their product is as much to do with revenue protection as ensuring the authentication process for transactions.). To access the device you need to provide a fingerprint, pin code and then hold the device to the computer screen.

Figure 12 Bloomberg biometric unit

5.2.3 Malware protection

IM can suffer from the same malware as e-mail and other internet delivered applications, even down to “SPAM” which is the IM equivalent of Spam and was as far back as 2004, expected to overtake SPAM. The drivers behind this is as Robert Mahowald an analyst at IDC states “the reason spim has taken off is very simple - the money and

the marketers go where people are," (Biever, 2004). To prevent this some form of AV software is essential.

5.3 Risks

The issue of risk concerns availability and latency and requirements for management of the company's Positional risk and client limits etc.).

5.3.1 Bandwidth loss, Congestion and Latency

One of the respondents noted unreliability as a negative factor. This appears to be more of an issue to those farthest away from the locations of the exchanges that may not have a POP in that area.

In addition to the underlying business / risk reasons for understanding the issue of latency, there is also a regulatory aspect driven by the desire to promote a level playing field, therefore congestion and latency introduced by the underlying technical fabric (As opposed to conversational latency) is not a problem that can be ignored in e-Trading, indeed many who participate in HFT try to overcome this by placing their Algo machines as near to the exchange as possible in order to minimize the effect. Using IM this would of course not be possible given the widely dispersed participant base

The fastest speed an electromagnetic signal can travel cannot be less than the distance travelled divided by the sound of light; therefore the nearer participants are to each other the better it is. The below matrix based upon the case study participants, illustrates how a trader in New York's round trip transmission time to Singapore is 119 ms versus a colleague in Hong Kong's would only be 17. In IM driven e-Trading it is questionable as to whether this matters, even so, unfortunately this is not something

that can be managed without going back to the good old days of face to face trading. In HFT it definitely does. The below figures demonstrate this, even though the speed of light in fibre is roughly 66% of the speed of light in a vacuum (Cheshire, 2006)

	London	New York	Hong Kong	Singapore	Sydney	Tokyo
London		56	98	111	173	97
New York	56		132	180	162	111
Hong Kong	98	132		26	74	29
Singapore	111	180	26		64	55
Sydney	173	162	74	64		79
Tokyo	97	111	29	55	79	

Table 19 "perfect"(but impossible) Latency

The effect introduced by the other issues such as the delays introduced by the various routers, DNS servers etc is however far greater. The below icmp (ping) results obtained from the users machines illustrate that it is definitely not a level playing field, with a user in Sydney taking almost three times as long to send and receive as a London user. The users interviewed however, did not feel that this was necessarily a major issue during the discussions, but could prove an issue at the time of quoting and accepting.

	London	New York	Singapore	Sydney
London		85	206	311
New York	85		289	242
Singapore	206	291		
Sydney	311	242		

Table 20 Actual latency between sites

(NB this is not as comprehensive as Table 19, due to lack of direct connectivity reference sites within the MCRM WAN.)

Any solution therefore needs to consider latency containment a key factor in the requirements

5.3.2 Time Zone differences

Technology cannot really overcome this factor. One respondent did consider the ability to place orders onto e-trading platforms an advantage as it meant they could get on with other non-work related matters, out of hours, but even so it was felt better to be present during volume trading hours. The interview population covered most of the time zone spectrum, with any participation cantering upon the 07:00 – 17:00 GMT time zone. The real issue with time zone differences is however uptime.

UK	Activity
00:00	1
01:00	1
02:00	3
03:00	0
04:00	1
05:00	0
06:00	2
07:00	6
08:00	6
09:00	7
10:00	5
11:00	2
12:00	6
13:00	8
14:00	6
15:00	9
16:00	5
17:00	6
18:00	3
19:00	1
20:00	0
21:00	0

22:00	0
23:00	0

Table 21 Transactional Clock

A consideration for the solution however is that if using the internet as the transport mechanism, planned ISP router maintenance will often be based upon local “quiet times”, which would not affect the majority of the population in that zone, but would knock out users from that area. Although maintenance activities are planned in advance, the routing protocols cannot gracefully move the traffic to new paths beforehand (Teixeira, 2006). In addition equipment failure can occur at any time causing transient service disruptions and performance problems. Using IM in the context of pure conversational platform this would not really matter, however once the platform is also used for e-trading far great consideration needs to be given to finding a solution to prevent outages of performance issues caused by routing issues as stated.

5.3.3 Cultural

Culture (corporate and individual): the effects of, age, social, societal and Linguistic background [7] Smith, [9] Hussain,

It is generally acknowledged that globalization has meant that there is now a far greater interaction between people of different cultures and backgrounds. Huczynski states that that cultures have different norms concerning how conversations should be had, in terms of greetings, levels of formality, etc (Huczynski et al, 2006, p176), . From observation and discussion with the respondents, this was not felt to be the case in the capital markets. Questioned as to why this was not felt to be the case, the general answer was that the markets had always been global and therefore the participants had grown used to both cultural conventions (indeed sometimes these formed the ba-

sis for humorous interactions), but also the subject matter under discussion was generally well defined and commoditized. It was observed and discussed that participant from South East Asia, including China preferred usage of IM to the phone. The reasons given by the interviewees indicated that the South East Asian participants (especially the Chinese) were not generally inclined to chit chat during business transactions. It has been difficult to confirm this externally, however review of IM logs did confirm that in comparison to western participants there was a general lack of informal, non business related communication.

Changes in job scope

An unforeseen, but real change resulting from the changes brought about by the advent of e-Trading is that of job scope of both the dealers and the AE's.

5.3.4 AE

Previously the AE's job would have been very much a relationship based marketing role and in fact made them an indispensable part of the operation, whereas now a lot of the tasks they would traditionally undertake have been eroded by the electronic age. This is especially true in relation to information dissemination, given that a lot of the information passed on by the AE is now available electronically to participants. There is indeed a danger that e-Trading could affect the AE's role as Amazon.com has affected local bookstores.

However given the focus on Three month (3M) liquidity, there is still a requirement for human interaction to adjust the dates, however some argue that even this function will shortly be taken on by the electronic order routing systems (Metal Bulletin, 2010).

5.3.5 Dealers

The dealer on an LME desk always provided liquidity by making bid-offer markets to customers and in turn managing the risk brought about by taking on the resultant positions. Now, according to Glen Chalkley of the LME for the Three Months transactions, 80% are traded electronically via LMEselect, which acts in effect as a pool of liquidity with LME members directly inputting orders and their clients using order routers to input them via the member in questions conduit.

5.4 Language problems

The case study included three users, Shinya Ikezaki, Abe Ulusal and Christian Pfeifer to whom English was not their first language. Whilst they felt that IM could be clearer than the telephone (written numbers are clearer than spoken), language was not an issue and they had no opinion on whether translation functionality would be useful. 41.7% of the respondents felt that translation functionality would be useful.

5.5 Revenue Issues

5.5.1 Impact on traditional revenue

An investigation of the economic drivers and impact to the issue of E-Trading and what (if any) effects IM would additionally have.

[10] Jain, [11], Levecq and Weber, [12] Martens and [13] Tse & Zabotina, [15] Aitken et al, [19] Elkind & McClean, [20] Thomas W

From a broker's perspective, there has been an adverse effect upon the income streams as transactions have migrated towards the electronic platforms, whether directly input by dealers or from clients who have been given an order routing systems

to use. Indeed an article in the trade bible, the Metal Bulletin argues (admittedly in a slightly in a tongue and cheek way) that the jobs of AE's should nowadays be more closely aligned with that of a software salesman, encouraging clients to devote screen real estate to their companies order routing offering, arguing with the techies to improve the offering rather than from a dealer for an improvement on a price (Metal Bulletin, 2010). Kotler and Armstrong describe these marketing challenges introduced by the internet in the transitional terms of old = Market places and new = Market spaces (Kotler & Armstrong, 2009, p23). To introduce the changes companies globally are experiencing with the transition from "bricks and mortar" to "clicks and mortar". Marketers in most industries will need to change their focus and working methodologies, but it can be argued that the industries specifically covered by this project, were electronically linked and globalised before the advent of the internet. The changes being experienced by industry AE's is one of adapting to new tools rather than a wholesale change in goal congruence (both of the individual organizations and the participants).

Others would argue that un-automated trading is far more costly due to the level of fixed costs required from staffing for manual intervention in the trade processing, entering, checking and correcting errors (Lavelle, 2010) Therefore there should be a wholesale move towards automated trading thereby reducing or removing the fixed cost element. This argument avoids however this case studies findings that a large proportion of transactions are not most effectively undertaken ion electronic platforms.

5.6 Technical and Standards

To accomplish a globally accepted IM platform it would obviously be preferable that the components adhered to be agreed standards,

There are various IM standards in use, however for the purposes of this project, the requirements for security (preferably transport layer security) and an unlimited number of contacts, reduce the potential to just a few SIP/ Simple, XMPP (Jabber). Jabber is the predominant standard. Jabber was initially developed by Jeremie Miller, who began working on it in 1998. It was originally conceived to allow users of AOL, MSN and other IM protocols to exchange messages. Jeremie, a keen user of XML, realised that if he took each IM providers libraries (which had been reverse engineered by others) and defined an XML format that the content could be written to, then it would be possible to build a client that understood this XML format, and it could talk to all these other services (McMillan, 2001). This formed the basis for XMPP (Extensible Messaging and Presence Protocol). It may be that legacy SSL would be required, but this should be avoided if possible as the levels of security do not match those of TLS.

Chapter 6. STAGE THREE

After the analyses of information from stage two a Time Process map and technical landscape were developed detailing development and usage changes required. From the interviews, time function mapping, observation and review of system literature, the following areas of functionality were identified, in terms of existing venues and those felt desirable in an enhanced e-trading platform. The gap analysis was then used to highlight areas where IM was considered lacking and therefore requiring development, from the perspectives of usability, technical, security and compliance.

Key to Diagram	
Human	
Digital	
Either	
Exists	
Does Not Exist	
New	
!	Partially
nn	Requests

Figure 13 Gap analysis Key

			Entity			Venue							
Action	Event	Whose Function	Human	Digital	Either	Ring	LMEselect	ISV e-Platform	Phone	IM	E-Mail	SMS	IM+
General "Live" Chat		AE											
Live Market Data Feed		AE											4
Live Market Price Enquiry		AE											
Request for Market		AE									!	!	
Considering Transaction		AE											
Constructing Transaction		AE											
Order Request		DL											

Partial Order Entry		DL											4
Entire Order Entry		DL											4
Trigger	MKT												
Limit													
Check Credit		MO											
Variables (Tenor, Metal)													
Partial fill	MKT	DL											
Complete fill	MKT	DL											
FX		DL											
Adjustment		DL											
Validate		BO											
Instant Confirmation													4
Written Confirmation		BO											
Transmit attachments													
Secure		IT									!	!	
Recorded		IT											
Anonymous Bid / Offer									!				3
Fixing participation										!	!	!	5
Live market stats													3
Language translation				!							!	!	2
Arb Calc													4
Option premium calc													5
Calendar													4
Positional lookup													3
Client positional lookup													3
Kill button													5

Figure 14 Gap analysis

As can be seen from the above, there are significant gaps in the functionality, currently offered by instant messaging platforms.

Chapter 7. CONCLUSIONS

7.1 Review

Before concluding it is worth revisiting the questions posed at the outset to see what has been learned.

• What is missing from current e-trading platforms in terms of Human Interaction?

The interviews and observation do prove that Human Interaction is almost completely missing from any of the e-Trading platforms. One of the respondents did turn the question on its head by asking “why not add messaging functionality to e-Trading platforms?” Whilst this was a sensible question, it could risk reducing the focus of e-trading platforms, which are really designed to execute transactions as quickly as possible and allow users to enter orders to be executed if market levels coincide with the order. It would also reduce the anonymity which is a desired feature of such platforms.

• Can instant messaging provide the interaction which historically has been provided by phones and open outcry?

Ignoring video IM, it is obvious that IM cannot completely replace the phone as speed and nuance are missing. Open Outcry however, has been replaced in many instances by e-Trading platforms, which again leads us to the need for a platform that has elements of human interaction and the attributes of an electronic trading platform which would allow STP, access to prices and other functionality.

• Does IM introduce problems in terms of usage that e-Trading platforms do not have, as examples through conversational coherence and disrupted turn adjacency?

Yes, but some of these differences are considered benefits, such as the ability to compose a conversation, logging of conversations etc.

• Can Instant Messaging provide the necessary performance, security and compliance requirements in order to be acceptable to the user domain?

• If not, what enhancements would be required?

• How could these enhancements be achieved?

This question proved rather more difficult to answer as the definition of the “user domain” is problematical. In some instances the answer is no, purely down to some companies current corporate security policies. During the investigation there was an instance of an employee leaving a participant company who allowed usage of public IM and joining a company who did not. The result was a reduction in the ability of other participants to communicate with this person, which presumably is a hindrance.

Other than the above it is possible to create a platform that utilises good bandwidth, incorporates current TLS encryption, requires strong authentication and would allow logging and monitoring of the conversations, so within the context of the question the answer is yes.

• What form of platform would this require? (Public or private)

• Dependent upon the above, what are the scalability issues?

These are very important questions, but are dependent upon the context and a company's view on security and allowing other participants access to the platform. The current "closed" platforms offered by Bloomberg and Reuters are heavily used, but lack functionality, come at a cost and are not as scalable as CIM products. CIM products however are not as secure or reliable.

Looking outside the world of derivatives trading, it is obvious that the usage would need to be defined by its purpose, medical would need to be very secure, retail less so.

7.2 Summary

It is clear from the case study that for anything other than vanilla transactions, there is a need for human interaction within the derivatives trading market. This was the case both in the more granular LME segment and also the less granular Energy and precious metals segment. This presumably also applies in other industries where people are undertaking transactions that are not straightforward.

It can be noted from the interview and survey responses, that even though they prefer phone and IM, dealers are more favourably inclined to electronic trading platforms as access to liquidity and speed of execution are critical to them. It is also apparent that those not located at the main offices; saw a greater reduction in phone conversations following the take-up in IM, Many also mentioned that it is possible to miss things in IM so this would need to be addressed in the final design.

Overall, the conclusion would be that an extended IM platform would be a useful addition to the trader's and account executives tools.

The final product should have at a minimum, normal functionality (presence, conference etc.) plus the following (or be able to interface with enterprise products that have the same functionality.

- TLS encryption
- Two factor (preferably Bio-Metric) sign-on
- API's to allow creation of plug-ins for customised development by participants and developers. This is especially important if STP is facilitated and also for interaction with participants core risk and product systems.
- Centralised archiving of conversations
- Monitoring and flagging of conversations containing restricted phrases or which violate corporate and regulatory policy
- An option for Synchronous communication capability (both users can type and see as it is typed
- Bespoke "action" buttons
- Some of the functionality outlined in Figure 14.
- Unrestricted buddy lists
- Ability to be federated

7.3 Lessons Learned

The drive to electrify the transaction process has irrevocably altered the landscape for the participants. It appears however that there is a significant amount of business which cannot be concluded using the current platforms, purely due to the lack of human interaction. As a result the participants have come to use IM in various guises to support this requirement.

A lot of the literature reviewed, focussed on market quality, concerning the bid-offer spread, the narrower the spread the better. There is no doubt that the concentration of liquidity provided by e-trading venues has assisted. Others would argue that there is a loss of other information which can be deduced such as motive for the trade, urgency, volume etc. (Aitken et al, 2004) therefore a tighter spread may come at a cost. Aitken also asserted that electronic trading produces tighter spreads in normal circumstances but they actually widened beyond that of open outcry during times of high volatility, a comment confirmed during the interview and observation process, another indicator of e-trading platforms preference for vanilla, deep pool transactions. There is not a great deal of literature available concerning the usage of e-trading platforms to construct complex transaction vehicles and it appears that the focus on STP has almost ignored the benefits brought about by human communication, which is essential. It was noted that one of the respondents' suggestion was to just add messaging functionality to e-trading platforms. This does raises the question as to when does IM stop actually being IM due to functionality creep / expansion? Some attempts to extend IM have not met instant success, the most notable development being Google Wave which is of course much more than an IM device and is not presented as such, but from available evidence has not been the "next step" that Google would have desired (Collins, 2010)

7.4 Future Activity

Having concluded that an extended IM platform would be desirable, it now needs to be developed. It is not a realistic prospect for the MCRM group to develop their own solution due to lack of resources and the fact it may be a hindrance to it's uptake by the wider community. The best way forward would be to engage the developer and trading community and agree upon a common, standardised solution. Gartner suggest that financial services organisations consider using hosted IM services from the likes of Reuters and Bloomberg (Smith, 2009). This however is problematical for the following reasons:

1) They are closed systems and not available to the client community unwilling to invest in the considerable cost.

2) They are expensive – Bloomberg is sometimes jokingly referred to as the most expensive IM system available, which is unfair as it is also a powerful analytical and market data provision tool, however if you are just using it for IM that is the case.

3) The functionality may not be as desired, although this is likely to change if there is a general move towards an enhanced product.

Another possibility would be to opt for a SaaS hosted service built by a vendor connected with the industry. This would present many benefits from a security angle, support and controlled development

7.5 Prospects for Further Work

Notwithstanding the usage in financial services, an enhanced IM solution could have a useful role to play across many areas. Whilst web sites can also offer informational services, they are not normally used to converse, nor are they optimal on most handheld devices, whereas IM's footprint is more manageable.

Some possibilities:

7.5.1 **Medical:**

IM's usage could range from discussing and diagnosing ailments to checking on a patient's progress. An enhanced version could perhaps include linkage to blood pressure monitors and make use of the video functionality

7.5.2 **Retail:**

Communication between buyers and sellers, allowing requirements tom be discussed more fully. An example would be a customer requiring assistance in selecting

7.5.3 **Help Zones:**

Much is made of extended telephone directory services to do this, however IM could also provide an advanced question and answer provision

7.5.4 **Banking:**

Mortgage applications, loans etc. could be discussed and tailored to customers requirements, perhaps with built in calendars and calculators.

LITERATURE AND REFERENCES CITED

15. Aitken, M. et al., 2004. The impact of electronic trading on bid-ask spreads: Evidence from futures markets in Hong Kong, London, and Sydney. Journal of Futures Markets, 24(7), 675 696.

25. Allen, H., Hawkins, J. & Sato, S., 2001. Electronic trading and its implications for financial systems. In Electronic finance: a new perspective and challenges. Workshop on Electronic Finance. Basel, Switzerland: BIS, pp. 40-62.
Available at:
http://www.bis.org/publ/bppdf/bispap07.pdf#page=40
Accessed January 15, 2010

26. Anderson, R.J., 2001. Security Engineering: A Guide to Building Dependable Distributed Systems, John Wiley & Sons.

23. Baschab, J. & Piot, J., 2007. The Executive's Guide to Information Technology 2nd ed., John Wiley & Sons.

27. Biever, C., 2004. Spam being rapidly outpaced by "spim". New Scientist.
Available at:
http://www.newscientist.com/article/dn4822-spam-being-rapidly-outpaced-by-spim.html
Accessed May 14, 2010

18. Bones, E. et al., 2007. Risk analysis of information security in a mobile instant messaging and presence system for healthcare. International journal of medical informatics, 76(9), 677-687.

2. M., Cadiz, Cadiz, J. & Burkhalter, B., 2000. Microsoft Research. Conversation Trees and Threaded Chats.
Available at:
http://research.microsoft.com/pubs/69790/tr-2000-43.pdf

22. Calder, A. & Watkins, S., 2008. IT Governance: A Manager's Guide to Date Security and ISO 27001 / ISO 27002: A Manager's Guide to Data Security and ISO 27001/ISO 27002 4th ed., Kogan Page.

1. Campbell, E. et al., 2002. RFC 3428 Session Initiation Protocol (SIP) Extension for Instant Messaging.
Available at:
http://www.rfc-editor.org/rfc/rfc3428.txt

28. Cheshire, S., 1996. It's the Latency, Stupid.
Available at:

http://www.stuartcheshire.org/rants/Latency.html
Accessed May 12th, 2010

29. Collins, B., 2010. After Buzz fizzles out, will public lap up Google Wave? | News | PC Pro.
Available at:
http://www.pcpro.co.uk/news/358084/after-buzz-fizzles-out-will-public-lap-up-google-wave
Accessed June 1, 2010

30. Tech.view: World Wide Wait. The Economist.
Available at:
http://www.economist.com/science-technology/displaystory.cfm?story_id=15523761
Accessed April 3, 2010

19. Elkind, P. & McLean, B., 2004. The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron New Ed., Penguin.

31. Herring, S.C, "Interactional Coherence in CMC." In Proceedings of the 32nd Hawaii International Conference on Systems Sciences, IEEE Press, 1999.

3. Housley, R., 2002. RFC 3369 Cryptographic Message Syntax (CMS).
Available online at:
at: http://www.faqs.org/ftp/rfc/pdf/rfc3369.txt.pdf
Accessed December 5, 2009

32. Huczynski, D.A. & Buchanan, P.D., 2006. Organizational Behaviour: An Introductory Text 6th ed., Financial Times/ Prentice Hall.

33. Hu, Y. et al., 2004. Friendships through IM:
Examining the Relationship between Instant Messaging and Intimacy. Journal of Computer-Mediated Communication, 1(6). Available at:
http://jcmc.indiana.edu/vol10/issue1/hu.html#abstract
Accessed March 12, 2010

9. Hussain, A., 2000. Managing Operational Risk in Financial Markets, a Butterworth-Heinemann Title.

34. Limits on contact lists, 2010 / Building IMIfied Bots / FAQs - IMified Support. IMified.
Available at:
http://help.imified.com/faqs/building-imified-bots/limits-on-contact-lists
Accessed May 29, 2010

10. Jain, P., 2004. Financial Market Design and Equity Premium:
Electronic versus Floor Trading. In The University of Memphis.

24. Jarvis, J., 2009. What Would Google Do? Harper Collins, NY.

35. Kalman, Y. et al., 2006. Pauses and Response Latencies: A Chronemic Analysis of Asynchronous CMC. Journal of Computer Mediated Communication, 12(1), 1-23.

4. Kim, S. & Soeng Leem, C., 2005. Security of the internet-based Instant messenger Risks and safeguards. Internet Research, 15(1), 88-98. Project Specification and Design Report, Rory McCarthy Page 12

36. Kotler, P. et al., 2008. Principles of Marketing 12th ed., Prentice Hall, Saddle River NJ USA.

37. Lavelle, G., 2009. Are Metals Markets ready for change? Metal Bulletin, 11 - 12.

11. Levecq, H. & Weber, B., 2002. E-Trading Systems: Strategic Implications of Market Design Choices. Journal of Organizational Computing & Electronic Commerce, 12(1), 85-103.

14. Lewis, C. & Fabos, B., Instant messaging, literacy's, and social identities. Reading Research Quarterly. Available at: http://www.reading.org/Publish.aspx?page=RRQ-40-4-Lewis.pdf&mode=retrieve&D=10.1598/RRQ.40.4.5&F=RRQ-40-4-Lewis.pdf&key=3747E158-6EDB-4063-AE8A-38705A8757FF Accessed February 1, 2010

38. Locke, C. et al., 2001. The Cluetrain Manifesto: The End of Business as Usual, Basic Books.

39. London Metal Exchange, 2007, LME 130th Anniversary Supplement, Buxton Press. Available online at: http://www.lme.com/downloads/LME_130_Supplement.pdf Accessed February 26th, 2010

40. London Metal Exchange, 2010 "History of the LME" Available online at: http://www.lme.com/who_ourhistory.asp Accessed February 26th, 2010

12. Martens, M., 1998. Price discovery in high and low volatility Periods: open outcry versus electronic trading. Journal of International Financial Markets, Institutions and Money, 8, 243-260.

41. McMillan, R., 2001. The Messenger: An Interview with Jabber's Creator, Jeremie Miller. Linux Magazine. Available at: http://www.linux-mag.com/id/902

Accessed May 17, 2010

42. Mead J, March 31st, 2010 “Algos boost you’re trading, but always read the label, City AM

43. Metal Bulletin, March 2010. In Depth: Changing Role of LME account Execs. Available at:
http://www.metalbulletin.co.uk/Article/2448982/IN-DEPTH-Changing-role-of-LME-account-execs.html
Accessed March 24, 2010

44. Metal Bulletin, March 2010. Lord Copper: The Software Salesman Cometh. Available at:
http://www.metalbulletin.co.uk/SearchResults.aspx?SearchType=Article&Keywords=LORD+COPPER%3a+The+software+salesman+cometh&OrderType=1&PeriodType=1&StartMonth=12&StartYear=2009&EndMonth=3&EndYear=2010 Accessed March 26, 2010

45. Montencino, V., 2004. Internet Terminology. George Mason Academic Research system.
Available at: http://mason.gmu.edu/~montecin/netterms.htm
Accessed June 1, 2010

5. Nardi, B., Whittaker, S. & Bradner, E., Interaction and Outeraction: Instant Messaging in Action. Available at: http://www.darrouzetnardi. net/bonnie/pdf/Nardi_outeraction.pdf

6. O’Neil, J. & Martin, D., 2003. Text Chat in Action. In Proceedings of the 2003 international ACM SIGGROUP. Sanibel Island Florida: ACM, pp. 4-49.

46. Reuters Messaging – Financial, 2010 - Thomson Reuters. Thomson Reuters. Available at:
http://thomsonreuters.com/products_services/financial/financial_products/products_az/messaging
Accessed April 5, 2010

47. Sasse, A. et al., 2007. Human Vulnerabilities in Security Systems, Knowledge Transfer Network.
Accessed March 31st, 2010-04-02
Available online at:
http://hornbeam.cs.ucl.ac.uk/hcs/publications/HFWG%20White%20Paper%20final.pdf

48. Schneier, B., 2004. Secrets and Lies: Digital Security in a Networked World, John Wiley & Sons.

49. Smith, D.M., 2009. Instant Messaging: From Dedicated Hosting to Software as a Service. Gartner.

Available at:
http://my.gartner.com/portal/server.pt?open=512&objID=260&mode=2&PageID=3460702&resId=1189114&ref=QuickSearch&sthkw=omnipod
Accessed June 1, 2010

7. Smith, D., 2009. Overcome the Top Five Roadblocks to Instant-Messaging Adoption. Gartner Research, (G00166773), 5.

50. Teixeira, R. & Rexford, J., 2006. Managing Routing Disruptions in Internet Service Provider Networks. IEEE Communications Magazine, 44(3), 160-165.

20. Thomas, W., The Rise and Fall of Enron When a company looks too good to be true, it usually is. Journal of Accountancy, April 2002, 41-45 47-48.

51. Thompson D, 2009, The Atlantic. Google Wave Live Typing is a Fatal Flaw.
Available at:
http://www.theatlantic.com/business/archive/2009/10/google-wave-live-typing-is-a-fatal-flaw/28361/
Accessed May 17, 2010

52. Trosby, F., 2004. SMS, the strange duckling of GSM. Telektronik.
Available at:
http://www.telenor.com/telektronikk/volumes/pdf/3.2004/Page_187-194.pdf.
Accessed May 14th, 2010

13. Tse, Y. & Zabotina, T., 2001 Transaction Costs and Market Quality: Open Outcry versus Electronic Trading, Journal of Futures Markets, 21(8), 713-735.

53. Reuters Messaging. Wikipedia, the free encyclopaedia.
Available at: http://en.wikipedia.org/wiki/Reuters_Messaging
Accessed April 5, 2010

8. Woerner, S., Yates, J. & Orlikowski, W., 2006. *Conversational Coherence in Instant Messaging and Getting Work Done*, MIT Sloan School of Management.
Available at: http://dspace.mit.edu/bitstream/handle/1721.1/37284/4630-06.pdf?sequence=1

16. Yifeng, H. et al., 2004. Friendships through IM: Examining the Relationship between Instant Messaging and Intimacy. Journal of Computer-Mediated Communication, Volume 10(1), N/A. 19

APPENDICES

Appendix A. KEY TERMS

Arbitrage: The simultaneous purchase and sale of substantially identical assets in order to profit from a price difference between the two assets

Aggregators: Allow users to connect with multiple (usually public) IM services

Backwardation: When the nearby price is higher than the forward one.

Bid / Ask (Offer): This is the price a market maker will buy or sell at, also known as "the price for immediacy"

Buddy: A term used for contacts. Therefore "Buddy Limits" would indicate the maximum amount of contacts a particular system allows.

Cat1 / Cat2: Acronym for Category 1 / 2. The LME's membership is split into various categories each of which carries different rights.

Chronemics: The study of the use of time in non-verbal communication

CIM: Consumer Instant Messaging

CMC: Computer mediated communication

Contango: When the nearby price is lower than the forward price

EIM: Enterprise Instant Messaging

Enron Online: An electronic trading platform developed by the infamous Enron.

F2F: Face to Face

Federated: The joining of autonomous self-governing groups, allowing communication between them

HFT: High frequency trading (electronically originated and controlled)

Instant Messaging: Platform for transfer of messages between one or more users in near real-time

ISV: Independent Software Vendor.

Job: To work an order, try to fulfil it from various venues.

LME: London Metal Exchange

LMEselect: The London Metal Exchanges electronic trading platform

On Exchange: A transaction concluded through a regulated exchange

OTC: Over the counter, a transaction that is not concluded via a regulated exchange

Pit: Open outcry venue for exchanges

POP: In the context of this project, it is used as the “Point Of Presence”, providing direct connectivity to the exchange (rather than a general ISP POP)

Ring: LME term for open outcry venue

SaaS: Software as a service.

Spectron First “Neutral” electronic trading platform

SPIM: Unwanted messages delivered via IM (analogous with SPAM in e-mail)

Spreads: The price between two dates.

STP: Straight through Processing.

Three Months / 3M: The volume tenor date on the LME. This contrasts with other exchanges which usually have a rolling volume date.

TLS: – Transport Layer Security

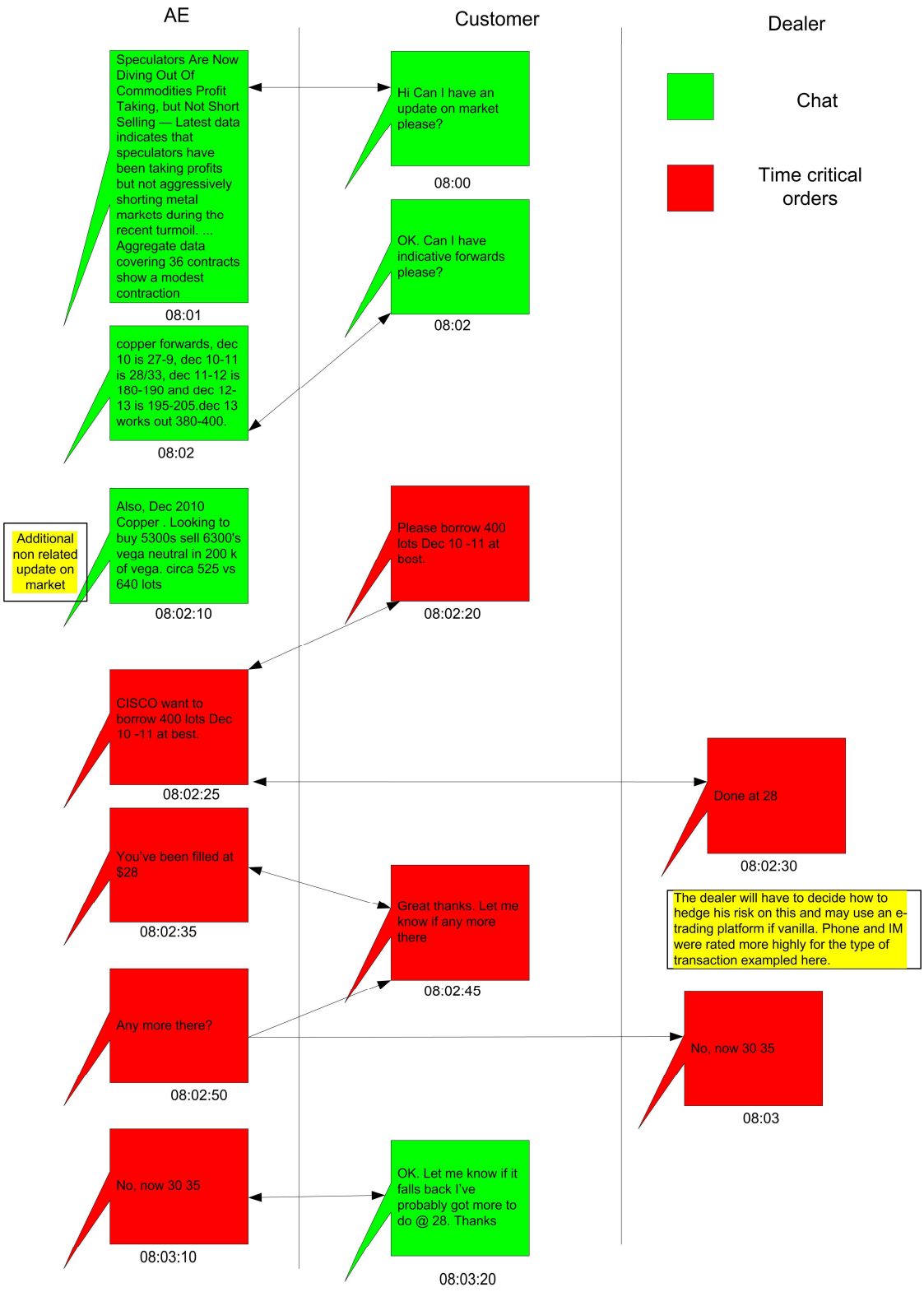
Vanilla Transaction: Simple, straightforward

Venue: Location where the transactions take place. This can be physical as in Ring or Pit trading, distributed as in phone trading or perhaps virtual is in e-Trading / IM.

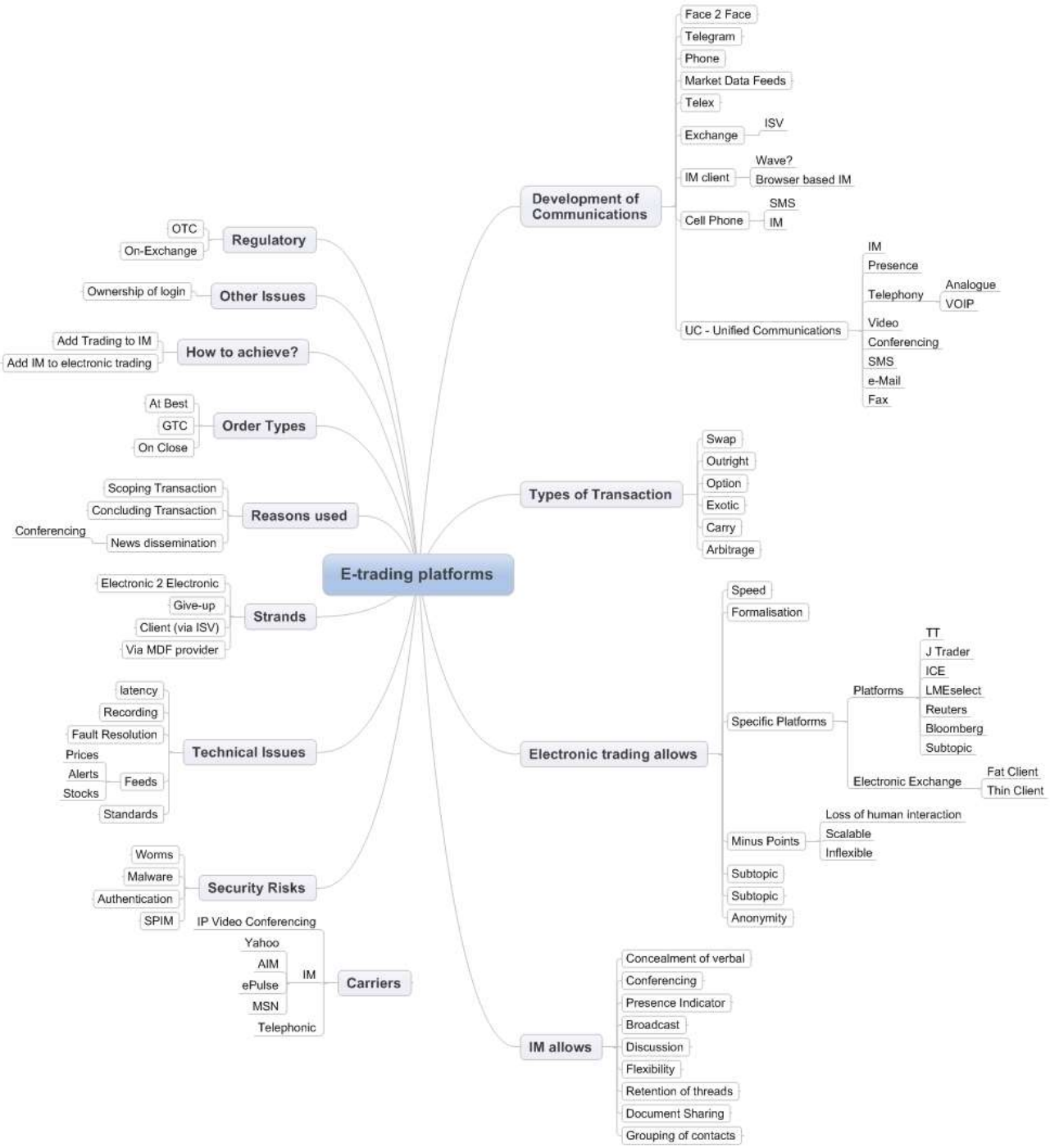
XMPP: - Extensible Messaging and Presence Protocol. An open source XML based protocol for message oriented middleware.

:

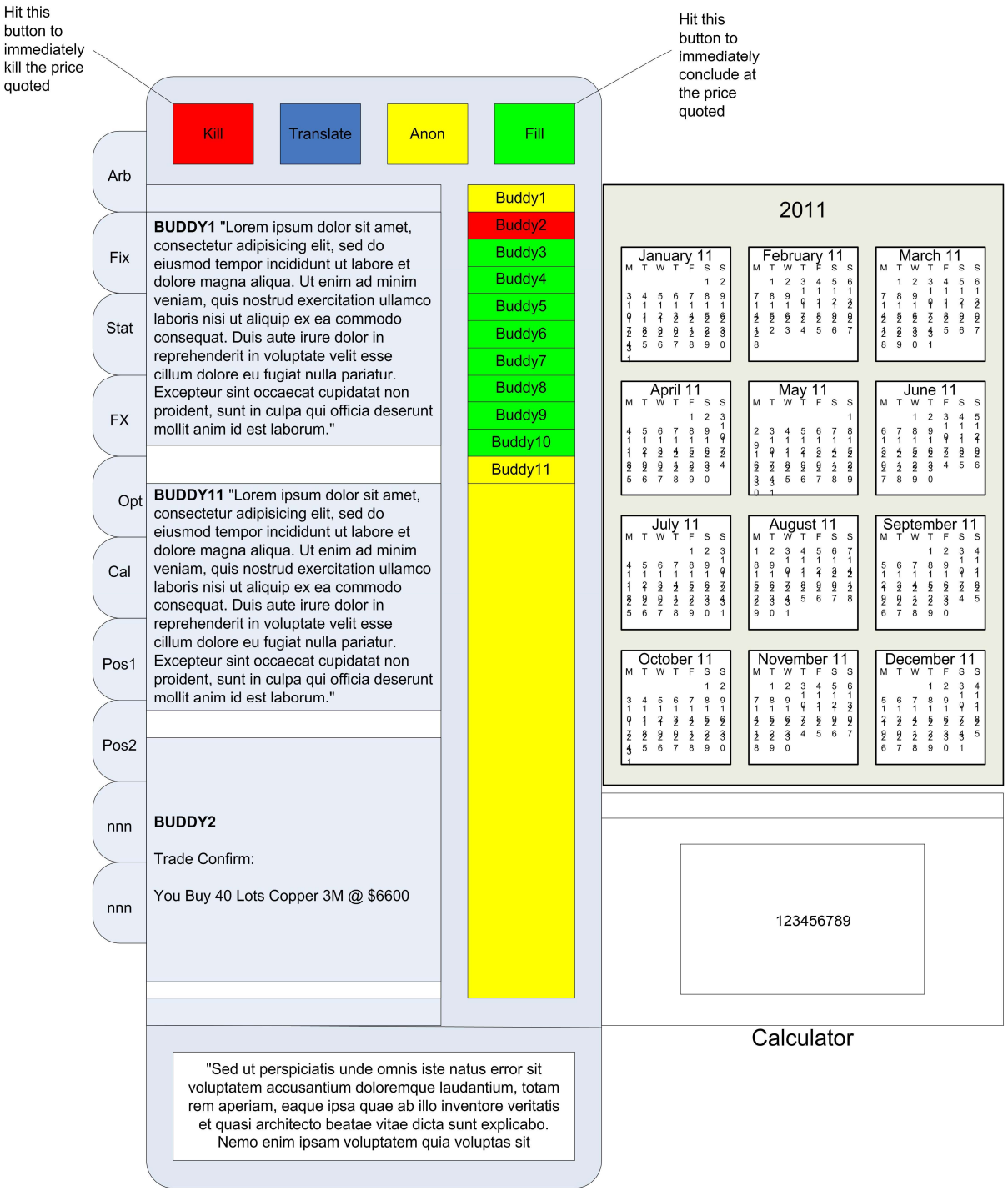
Appendix B. TIME CONVERSATION MAP



Appendix C. E-TRADING LANDSCAPE



Appendix D. SUGGESTED SOLUTION



Appendix E. INTERVIEW TRANSCRIPTS

Interview / survey 1
Glen Chalkley – Head of Electronic Markets, London Metal Exchange

Date 1st April 2010 Time 11:00

Glen is the man responsible at the LME for investigating and implementing initiatives relating to electronic trading on the LME

Q: What was the historical context of the development of LMEselect?

Glen: Electronic trading on exchanges developed in the lat 90's and the LME obviously had to take on board this change. Initially around 1999 we bought an equities platform "OMclick" and then tried to customise it, this was extremely difficult to do hence three years down the line when the contract was up it was cancelled. We paid a hell of a lot of money for it for at that stage and it was a fantastically reliable system but just not what we needed, even though we were only doing about 40 trades a day, but obviously back then you didn't know what was going to happen.

Rory: Yes in those days it was very much guesswork

Glen: Exactly, there were another few exchanges MATIF being a good example in Paris that opened electronic trading parallel to the open outcry and in three weeks the volume had migrated in three weeks to the screen and they had to close the floor. Obviously the LME has been linked to the floor for many, many years and for lots of different reasons so there was obviously a lot of fear on that side when we decided to implement electronic trading, and joking aside, there were certain CAT1s (Floor trading members) and even some CAT2s (non floor trading members) that wouldn't even open the door to me.

Q: How did you and do you keep abreast of such a rapidly moving market? (In the sense of electronic technology not the underlying market)

Glen: Some of the exchanges are moving all the time and it's crazy. I try and keep up with it as best I can. I do tend to go to quite a few of the FIA conferences. There's a very good one in Chicago every November. It was a result of one such visit that we chose Cinnober to build our LMEselect platform. Cinnober gave us a clean sheet of paper and said they would do the trade express platform at the bottom which does all the fancy matching, you build the sachet round that and you build that with what ideas you want. I did a lot of research at these conferences and I went on to all the other exchanges stands and all the other exchanges ISVs and noted what functions were quite good on their system. I also spent a considerable amount of time with traders noting what they felt was needed. Also at that time there was a system called Spectron that LME dealers were using. It had a very simple interface, which everyone liked, but was mainly restricted to trading 3M's and a few odd carries. The problem I had was that we needed to design the new system to cater for everything the LME did, but if the floor had gone in three weeks like Matif, we needed a system that could replicate the floor and do everything, not just 3 months and simple carries[3].

Q: So once LMEselect was up and running, how did the migration of transaction volume to it go?

Glen: Just to give you a bit of background as well, probably three or four years ago we had four or five members that could route orders from their clients. When this started, everybody expected the order routers clients to take liquidity from Select. Everyone thought that that people would place an order from Select and the order routers client would be hitting them. In hindsight the opposite happened. Order routers clients gave LMEselect the liquidity and it was the LME members that were hitting the order routers.

[3] Interestingly even though this functionality has been incorporated into LMEselect it is not really used, and from my interviews with front desk staff it appears that the reason for this is that e-Trading platforms are not currently considered suitable for anything other than vanilla transactions

Rory: from my interviews with our dealers one of the good points is that you have a single pool of liquidity that you can direct. Previously, it used to be if you had a 500 lot order you would have to ask counterparties for markets to try to execute.

Glen: You're right, but remember back in 2003, as well as LMEselect; there were also the Enron online and Spectron electronic trading platforms. This meant there were three different platforms out there, all vying for the same liquidity. I believe that there were primarily two things what made the liquidity move to LMEselect and one was the order routers orders, which provided the liquidity.

The other thing obviously is that we did build the front end GUI exactly how the traders wanted it, to the point now that traders still love it and they don't want to move off the LMEselect GUI to an ISV system. We built Select for them, There's B's and C's, for Contango and Backwardations instead of pluses and minuses when they put a carry in its borrow and lend, you know, instead of buy and sell. We also put the valuations on there and you can get last night's valuations and carries on two dates and it gives you what the valuation was. Those simple things are what they love.

Q: What are your thoughts on the ISV systems?

ISV systems cater for the normal future style markets. The LME is quite a small market. The ISVs cannot sell to that many members, so when someone asks them can you put the LME date structure on to their platform, it's a case of there's only forty of you out there. They can't sell to loads and for them to invest to do our quirky three months date that rolls every day but doesn't roll at a weekend and that kind of crazy stuff they go kind of …gee, this is way too hard. I think another good barometer to see how change has happened is say three or four years ago there were probably four or five members who could order route. Now there are 28 members who can order route.

And those members who wouldn't let me in the office four years ago now ring me up and ask for contact details of LME proficient ISVs.

Q: How do you view the uptake of instant messaging in the market and markets generally?

Glen: Well, I must admit I didn't see this one coming and am very surprised at its popularity. I don't see how it's quicker to type something than to ring someone up and talk to them. Apart from multicasts. If you send it to 30 people, that's different. We did not incorporate chat into LMEselect. We just had market message. We had a request for quote function. You could send a quote to someone ask for a quote and get a quote back and you could put some free text field in there. We did get a demo probably two or three years ago from a company that does Instant Messaging. If you put in there I want to buy copper 3 months, it would come back saying yes please, they will read that and put it as a contract for matching in your back offices and send it without you doing anything. That's all just from Instant Messenger.

Q: How does the LME handle regulatory issues with usage of Select via an order router in countries that it's not approved?

It is the responsibility of the member providing the order router to ensure compliance. The line is very firmly drawn that by the LME

Also it is via the LMEselect API. The API would be your software so say you put it out to wherever you want to put it out even though we haven't got regulatory approval for that jurisdiction, if your system has then that's fine because ultimately it is your system that you're passing out and not our system.

Rory: So, the analogy is with the phones, if a member were dealing with somebody in a way we shouldn't do it is down to the member

Glen: Yes. When we were talking about order routing the client is placing an order to you. He's not placing the order direct on Select. What the order routing is doing is just replicating when your client used to ring up the dealer and say buy 10 lots.
It still goes to the member firm, and they make the decision to pass it on to Select or keep it for themselves. Nowadays most of them go on to Select I know people always think Oh the client's got access to Select. No he hasn't. Its your system, you happen to show him Select prices and you have to direct him, place an order and it then goes straight through. We get less calls now from compliance departments saying so what's the difference between a client order routing and a client doing a telephone trade answer is there is no difference.

Name	Steve Kanner
Function (Dealer / AE)	Dealer
Company	MBCI
City	NY
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	
Over 15	X

Platforms Used	Discuss	Trade	Conf
Ring / Pit	X	X	X
Telex	X	X	
Phone	X	X	X
Reuters	X		X
Bloomberg	X		X
LMEselect		X	
Spectron		X	
ISV		X	
e-Mail	X	X	X
Public IM			
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)		X	
Bloomberg (Closed)	X		
MSN			
XIM			X
OTC Trader Partially Closed)			X
Other	X		X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market		X		
Counterparty Request			X	

Ease of Use		X		
Functionality		X		
Security		X		
Privacy				

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X		
LMEselect			X	
ISV			X	

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
LMEselect	X		X	
ISV		X		
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect		X		
ISV			X	

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM			X	
e-Mail			X	
LMEselect			X	
ISV			X	

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM			X	
e-Mail			X	
LMEselect			X	

ISV			X	

Busiest trading hours (local time zone)	
	08:00
	09:00
	10:00
	11:00
	12:00
	13:00

Do you ever trade outside of the office?		Yes	No
		X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM		X		
e-Mail		X		
Remote Access to Office		X		
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer		X		
With Counterparty			X	
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

More efficient and fairer, more transparent

Bad Points (Not good for complex, etc.

Unforgiving of errors, allows algorithmic orders that border on illegality

Overall (any additional comments relating to e-trading platforms)

How has the advent of E-Trading altered the way you work orders?

Has completely changed the Arbitrage which is now much more sharply circumscribed and is executed far more easily by machine

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry			
Live Price Feeds			
Anonymous Bid / Offer			
Participation in a fixing			
Access to market stats			
Language Translation			
Arb calc			
Option premium calc			
Calendar			
Trade Confirmation			
Your Position Lookup			
Client Position Lookup			

Any other functionality you think would be useful?

Not really sure where you're going with this one. Most, if not all of these are already available on most trading platforms, so wouldn't it just be easier to add an IM function to the trade platform, rather than add all this to IM? (See my response)

Good Points (conferencing, etc.)

Written record of conversation

Bad Points (People not speaking as much, can be misunderstood)

In just about every other way I believe the phone is superior. Quicker, more precise, more nuanced, less easy to miss

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?		X	
Do you use IM on mobile?		X	

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Rick Holmes
Function (Dealer / AE)	AE
Company	MBCA
City	Sydney
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	X
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex		X	
Phone		X	
Reuters		X	
Bloomberg			
LMEselect		X	
Spectron		X	
ISV		X	
e-Mail		X	
Public IM		X	
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo		X	X
Reuters (Closed)	X		
Bloomberg (Closed)			
MSN		X	
XIM			
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market			X	
Counterparty Request		X		

Ease of Use			X	
Functionality				X
Security				X
Privacy				X

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM			X	
e-Mail		X		
LMEselect				X
ISV				X

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM			X	
LMEselect	X			
ISV				
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM				
e-Mail		X		
LMEselect				
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM				
e-Mail	X			
LMEselect				
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail	X			
LMEselect				

ISV				

Busiest trading hours (local time zone)	
	10:00
	11:00
	12:00
	17:00
	18:00

Do you ever trade outside of the office?		Yes	No
			X

Trading hours are dependent on other time zones e.g.., Shanghai opens 9:00 am China which can be 11 am or 12 noon in Sydney

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone				
IM				
e-Mail				
Remote Access to Office				
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	X			
With Counterparty				X
On the Desk	Zero			

Good Points (Quicker, centralised liquidity etc.)

Knowing depth of market was a skill and who was long/short. Now it's all in front of you.

Bad Points (Not good for complex, etc.

Icebergs are a PIA (Pain in the...)

Overall (any additional comments relating to e-trading platforms)

generally much better, more transparent and efficient

How has the advent of E-Trading altered the way you work orders?

More go directly into the system. But not all

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer			X
Participation in a fixing			X
Access to market stats	X		
Language Translation	X		
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

all increases in functionality are good, provided it does not become too complicated or time consuming

Good Points (conferencing, etc.)

Easy & Brief

Bad Points (People not speaking as much, can be misunderstood)

Some people do not know how to let you go.

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?		X	
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Withheld
Function (Dealer / AE)	AE
Company	Withheld
City	HK
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	
Over 15	X

Platforms Used	Discuss	Trade	Conf
Ring / Pit		X	
Telex		X	
Phone	X	X	
Reuters	X	X	
Bloomberg	X	X	
LMEselect		X	
Spectron		X	
ISV	X	X	
e-Mail	X	X	
Public IM	X	X	
SMS	X		
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)			X
Bloomberg (Closed)	X		
MSN		X	
AIM		X	
OTC Trader Partially Closed)			X
Other			
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market	X			
Counterparty Request		X		

Ease of Use		X		
Functionality		X		
Security		X		
Privacy		X		

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail			X	
LMEselect				X
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
LMEselect				X
ISV	X			
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail			X	
LMEselect				X
ISV	X			

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				X
ISV				X

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				X

ISV				X

Busiest trading hours (local time zone)	
	09:00
	16:00
	17:00
	18:00
	19:00

Do you ever trade outside of the office?		Yes	No
		X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM		X		
e-Mail			X	
Remote Access to Office		X		
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer		X		
With Counterparty			X	
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

Quicker, more personal control of your orders, risk management is easier (position keeping etc becomes real time), cheaper commissions on electronic platforms

Bad Points (Not good for complex, etc.

Robustness of the system can be a problem - i.e. connections to the main exchange systems where orders can be "lost" without you realising.

Overall (any additional comments relating to e-trading platforms)

You do lose any information flow and personal contact. Good for people like myself that work in the Asian time zone as can leave the orders in and carry on with non-work related stuff

How has the advent of E-Trading altered the way you work orders?

Customer orders tend to go straight into the system. Or at least part of them to act as a reminder

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer		X	
Participation in a fixing		X	
Access to market stats	X		
Language Translation		X	
Arb calc			X
Option premium calc			X
Calendar			X
Trade Confirmation			X
Your Position Lookup		X	
Client Position Lookup		X	

Any other functionality you think would be useful?

The ability to attach file links allows a lot of the functionality above. Bloomberg has changed the way a lot of people do business as you can have "chat rooms" that are open all the time and generally people put ring updates etc on that. Files can be downloaded etc. Direct trading from price feeds (e.g. Bloomberg) would be good.

Good Points (conferencing, etc.)

Ease of communication, speed of contact, orders and executions can be checked immediately if any discrepancy

Bad Points (People not speaking as much, can be misunderstood)

When outside the office if you do not have IM on your mobile people never send information over. For general market colour it is still better to speak. IM loses the personal touch and feel. Very clinical and straight to the point.

Overall (Any other comments)

Can be annoying when you are trying to get things done, unless you completely ignore them!

In the context of trading...

	Often	Some	Never
How often do you use SMS?	X		
Do you use IM on mobile?		X	

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Rishi Sawhney
Function (Dealer / AE)	AE
Company	MPM
City	NY
Native Language	English

Years experience	%
Under 5	
5 to 10	X
10 to 15	
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit		X	
Telex			
Phone	X	X	X
Reuters	X	X	X
Bloomberg	X	X	X
E-Platform			
EBS		X	
ISV	X		
e-Mail	X	X	
Public IM	X	X	
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo			
Reuters (Closed)	X		
Bloomberg (Closed)	X		
Public IM		X	
AIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market			X	
Counterparty Request	X			

Ease of Use	X			
Functionality	X			
Security	X			
Privacy	X			

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X		
E-Platform				
ISV				X

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM	X			
E-Platform				
ISV	X			
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
E-Platform		X		
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail				
E-Platform	X			
ISV				X

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail			X	
E-Platform	X			

ISV				X

Busiest trading hours (local time zone)
08:00
09:00
10:00

Do you ever trade outside of the office?	Yes	No
	X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM		X		
e-Mail		X		
Remote Access to Office		X		
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	X			
With Counterparty			X	
On the Desk		X		

Good Points (Quicker, centralised liquidity etc.)

Quick and Transparent.

Bad Points (Not good for complex, etc.

Cuts down on relationships, information gathering, also you lose the sentiment that you would get from verbal communication.

Overall (any additional comments relating to e-trading platforms)

While it is positive for the market as it makes transactions quicker, more transparent and simpler, there are definitely some losses from the traditional open outcry or voice dealing that the market had in place for many years.

How has the advent of E-Trading altered the way you work orders?

Orders are placed directly into the system, cutting down on risk of missing an order or the human based errors when dealing with clerks etc. However, there is less communication on the trading desk so it is harder to understand why or when things are occurring

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer		X	
Participation in a fixing	X		
Access to market stats	X		
Language Translation		X	
Arb calc		X	
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

quick access to information and outreach to clients

Bad Points (People not speaking as much, can be misunderstood)

Sentiment behind a conversation is lost. Sometimes saying something electronically can be misinterpreted for the worse. human interaction fosters relationships - these are dwindling as the electronic communication gains momentum

Overall (Any other comments)

overall, I think IM for dealing is positive, but being a 10 year veteran in this market, I feel as if the market lost something when open outcry and verbal dealings such as "call outs" disappeared

In the context of trading...

	Often	Some	Never
How often do you use SMS?	X		
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
	X

Name	Christian Pfeifer
Function (Dealer / AE)	Dealer
Company	MPM
City	London
Native Language	German

Years experience	%
Under 5	
5 to 10	
10 to 15	X
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex		X	
Phone		X	
Reuters		X	
Bloomberg		X	
E-Platform			
EBS		X	
ISV		X	
e-Mail		X	
Public IM		X	
SMS		X	
Other			

IM Platform Usage	Often	Some	Never
Yahoo		X	
Reuters (Closed)		X	
Bloomberg (Closed)	X		
Public IM			
AIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market		X		
Counterparty Request		X		

Ease of Use		X		
Functionality		X		
Security		X		
Privacy		X		

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM				
e-Mail				
E-Platform				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
E-Platform				X
ISV	X			
e-Mail	X			

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X		
E-Platform				X
ISV				X

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
E-Platform			X	
ISV		X		

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail				X
E-Platform		X		

ISV				X

Busiest trading hours (local time zone)
09:00
10:00
14:00
15:00
17:00
18:00

Do you ever trade outside of the office?	Yes	No
	X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM				
e-Mail				
Remote Access to Office				
Other				

Christian was unable to take part in subsequent section.

Name	Scott Davis
Function (Dealer / AE)	Dealer
Company	MERM
City	NY
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	X
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex	X	X	
Phone	X	X	
Reuters			
Bloomberg			
E-Platform		X	
EBS			
ISV		X	
e-Mail			
Public IM	X		
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)			X
Bloomberg (Closed)			X
Public IM			X
AIM			X
OTC Trader Partially Closed)	X		
Other			
Gmail	X		

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market	X			
Counterparty Request		X		

Ease of Use			X	
Functionality		X		
Security		X		
Privacy		X		

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail			X	
E-Platform				X
ISV				X

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
E-Platform	X			
ISV	X			
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail			X	
E-Platform		X		
ISV		X		

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail				X
E-Platform		X		
ISV			X	

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail				X
E-Platform		X		

ISV		X		

Busiest trading hours (local time zone)
08:00
09:00
14:00
15:00
16:00
17:00
18:00
19:00

Do you ever trade outside of the office?	Yes	No
	X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone			X	
IM				X
e-Mail				X
Remote Access to Office		X		
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer		X		
With Counterparty			X	
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

Much quicker with good liquidity

Bad Points (Not good for complex, etc.

Not good for complex structures (fly's, boxes, options, etc.)

Overall (any additional comments relating to e-trading platforms)

Overall I think there is less slippage to trading electronically but also less "flavour" to what is happening

How has the advent of E-Trading altered the way you work orders?

Orders go straight to the screen now...voice brokers are no longer relevant in flat price trading (for the most part)

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry		X	
Live Price Feeds		X	
Anonymous Bid / Offer		X	
Participation in a fixing	X		
Access to market stats	X		
Language Translation	X		
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation		X	
Your Position Lookup		X	
Client Position Lookup		X	

Any other functionality you think would be useful?

Not that I can think of

Good Points (conferencing, etc.)

Easy way to consume and share large amounts of information with brokers and clients

Bad Points (People not speaking as much, can be misunderstood)

Less "flavour" to what is driving the market - also can be prone to being misunderstood

Overall (Any other comments)

Generally very beneficial

In the context of trading...

	Often	Some	Never
How often do you use SMS?			X
Do you use IM on mobile?		X	

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Abe Ulusal
Function (Dealer / AE)	AE
Company	MBCI
City	NY
Native Language	Turkish

Years experience	%
Under 5	X
5 to 10	
10 to 15	
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			X
Telex			
Phone	X	X	X
Reuters	X		X
Bloomberg	X		X
LMEselect		X	
Spectron			
ISV			
e-Mail	X	X	X
Public IM	X	X	X
SMS	X		
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)			X
Bloomberg (Closed)	X		
MSN			X
XIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market		X		
Counterparty Request	X			

Ease of Use		X		
Functionality		X		
Security			X	
Privacy			X	

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM			X	
e-Mail		X		
LMEselect				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
LMEselect		X		
ISV				
e-Mail		X		

Concluding non 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail		X		
LMEselect		X		
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail			X	
LMEselect			X	
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail		X		
LMEselect				

ISV				

Busiest trading hours (local time zone)	
	10:00

Do you ever trade outside of the office?		Yes	No
			X

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone				
IM				
e-Mail				
Remote Access to Office				
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	X			
With Counterparty		X		
On the Desk	Zero			

Good Points (Quicker, centralised liquidity etc.)

Transparent and quicker

Bad Points (Not good for complex, etc.

Costly mistakes due to technical issues, maintenance issues

Overall (any additional comments relating to e-trading platforms)

How has the advent of E-Trading altered the way you work orders?

Yes it has

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer	X		
Participation in a fixing	X		
Access to market stats	X		
Language Translation			X
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Speed

Bad Points (People not speaking as much, can be misunderstood)

Costly mistakes because of misun- derstandings

Overall (Any other comments)

It is a good tool

In the context of trading...

	Often	Some	Never
How often do you use SMS?			X
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Simon Underhill
Function (Dealer / AE)	Broker
Company	Newedge Group
City	London
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	
Over 15	X

Platforms Used	Discuss	Trade	Conf
Ring / Pit	X	X	
Telex	X	X	
Phone	X	X	X
Reuters	X		
Bloomberg	X	X	X
LMEselect	X	X	
Spectron	X	X	
ISV			
e-Mail	X	X	X
Public IM	X	X	X
SMS	X		
Other	X	X	

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)		X	
Bloomberg (Closed)	X		
MSN			
AIM			X
OTC Trader Partially Closed)			X
Other	X		X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market		X		
Counterparty Request		X		

Ease of Use		X		
Functionality		X		
Security			X	
Privacy			X	

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone		X		
IM	X			
e-Mail		X		
LMEselect				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM	X			
LMEselect		X		
ISV				
e-Mail		X		

Concluding non 3M	Best	Mod	Poor	Worst
Phone		X		
IM	X			
e-Mail			X	
LMEselect		X		
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone		X		
IM	X			
e-Mail		X		
LMEselect			X	
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone		X		
IM	X			
e-Mail		X		
LMEselect				

ISV				

Busiest trading hours (local time zone)	
	10:00
	12:00
	15:00

Do you ever trade outside of the office?		Yes	No
			X

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone				
IM				
e-Mail				
Remote Access to Office				
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer		X		
With Counterparty			X	
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

Transparency, Speed, broader access to liquidity

Bad Points (Not good for complex, etc.

Reduces market maker income and thus can impact liquidity negatively some-times. Systems orders can harm flows

Overall (any additional comments relating to e-trading platforms)

How has the advent of E-Trading altered the way you work orders?

For me it has not had so much impact as we focus on options and e-trading is not good for options.

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer		X	
Participation in a fixing	X		
Access to market stats	X		
Language Translation	X		
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Conferencing, easy audit trail intra-day. Can put info across in a way that can be better understood

Bad Points (People not speaking as much, can be misunderstood)

Not good for building personal relationships. Can lead to more economy with the truth. Does not easily allow for innuendo of hints.

Overall (Any other comments)

0

In the context of trading...

	Often	Some	Never
How often do you use SMS?			X
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
	X

Name	Elliot Mount
Function (Dealer / AE)	Dealer
Company	MBC
City	London
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	
Over 15	X

Platforms Used	Discuss	Trade	Conf
Ring / Pit	X	X	
Telex			
Phone	X	X	
Reuters			
Bloomberg			
LMEselect		X	
Spectron		X	
ISV			
e-Mail	X	X	
Public IM	X	X	
SMS	X		
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)		X	
Bloomberg (Closed)			X
MSN			X
AIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market		X		
Counterparty Request			X	

Ease of Use		X		
Functionality		X		
Security			X	
Privacy			X	

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM			X	
LMEselect	X			
ISV				
e-Mail				X

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect		X		
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone				
IM				
e-Mail				
LMEselect				
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				

ISV				

Guy

Busiest trading hours (local time zone)	
	07:00
	08:00
	09:00
	12:00
	13:00
	16:00
	17:00

I have specified the times when I am generally busiest however I do sometimes conduct business out of office hours with both Sydney and NY

Do you ever trade outside of the office?		Yes	No
		X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone	X			
IM		X		
e-Mail		X		
Remote Access to Office				X
Other				

Elliot was unable to take part in the second part.

Name	Guy Brennan
Function (Dealer / AE)	Dealer
Company	Standard Bank Asia
City	Shanghai
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	
Over 15	X

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex	X	X	
Phone	X	X	
Reuters	X	X	X
Bloomberg	X	X	X
LMEselect		X	
Spectron	X	X	X
ISV		X	
e-Mail	X	X	X
Public IM		X	X
SMS	X	X	X
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)	X		
Bloomberg (Closed)	X		
MSN		X	
XIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market	X			
Counterparty Request		X		

Ease of Use	X			
Functionality	X			
Security	X			
Privacy	X			

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X		
LMEselect				X
ISV			X	

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM			X	X
LMEselect	X			
ISV				
e-Mail	X			

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail	X			
LMEselect	X			
ISV	X			

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X	X	
LMEselect				
ISV			X	

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X	X	
LMEselect				

ISV			X	

Busiest trading hours (local time zone)	
	09:00
	11:00
	14:00
	15:00

Do you ever trade outside of the office?		Yes	No
		X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM				X
e-Mail		X		
Remote Access to Office		X		
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer			X	
With Counterparty				X
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

Quick and Transparent

Bad Points (Not good for complex, etc.

Subject to hardware and software stability issues. Can create panic buying or selling from lemmings. Has caused a reduction in sharing of market information and opinions

Overall (any additional comments relating to e-trading platforms)

Killing the broker industry, slowly but surely

How has the advent of E-Trading altered the way you work orders?

All orders put straight onto the system

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer	X		
Participation in a fixing	X		
Access to market stats	X		
Language Translation	X		
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		
	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Enables multi-tasking, conferencing

Bad Points (People not speaking as much, can be misunderstood)

Has killed conversation, info / opinion exchange

Overall (Any other comments)

Turn off the systems, get people talking again!

In the context of trading...

	Often	Some	Never
How often do you use SMS?	X		
Do you use IM on mobile?		X	

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
	X

Name	Shinya Ikezaki
Function (Dealer / AE)	Dealer
Company	Mitsui & Co.
City	Tokyo
Native Language	Japanese

Years experience	%
Under 5	
5 to 10	
10 to 15	X
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex	X		
Phone	X	X	X
Reuters	X	X	X
Bloomberg			
LMEselect		X	
Spectron		X	
ISV		X	
e-Mail	X		X
Public IM	X	X	X
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo		X	
Reuters (Closed)	X		
Bloomberg (Closed)			X
MSN			X
XIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail			X

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market		X		
Counterparty Request		X		

Ease of Use		X		
Functionality		X		
Security	X			
Privacy	X			

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone			X	
IM			X	
LMEselect				
ISV	X			
e-Mail				X

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail			X	
LMEselect				

ISV				

Busiest trading hours (local time zone)	
	16:00
	17:00
	18:00
	21:00
	01:00

Do you ever trade outside of the office?		Yes	No
		X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone	X			
IM				X
e-Mail				X
Remote Access to Office				X
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	Zero			
With Counterparty				
On the Desk		X		

Good Points (Quicker, centralised liquidity etc.)

Easy to trade and gives more opportunity to job around. It has also given access to counterparties who would never have traded if it wasn't for electronic trading

Bad Points (Not good for complex, etc.

Has brought in price volatility together with fresh money, and this has changed the commodities into a financial tool rather than a hedge market for producers/consumers. The electronic platform also made it easier for some participants to manipulate the market buy using various order techniques.

Overall (any additional comments relating to e-trading platforms)

The electronic trading has brought in excessive money into the commodities market. If there wasn't any select, Copper would have stayed around $3,000-$4,000 area, and Zinc at $1,500-$2,000 level. (my pure guess)

How has the advent of E-Trading altered the way you work orders?

Due to price transparency, orders needs to be given straight into systems unless agreed with customers.

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer	X		
Participation in a fixing	X		
Access to market stats			X
Language Translation			X
Arb calc			X
Option premium calc	X		
Calendar			X
Trade Confirmation	X		
Your Position Lookup	X	X	
Client Position Lookup	X	X	

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Easy to communicate in an informal way

Bad Points (People not speaking as much, can be misunderstood)

Orders given through IM could be ignored

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?			X
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Tony Walters
Function (Dealer / AE)	Dealer
Company	MPM
City	London
Native Language	English

Years experience	%
Under 5	
5 to 10	X
10 to 15	
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit		X	
Telex			
Phone	X	X	
Reuters	X	X	
Bloomberg	X	X	
E-Platform			
EBS	X	X	
ISV	X	X	
e-Mail	X	X	
Public IM	X		
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)	X		
Bloomberg (Closed)	X		
Public IM		X	
AIM			X
OTC Trader Partially Closed)			X
Other			X
Gmail		X	

Reasons for usage	Critical	High	Med	Low
Customer Request		X		
Most used in Market			X	
Counterparty Request		X		

Ease of Use			X	
Functionality				X
Security				X
Privacy				X

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail		X		
E-Platform				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
E-Platform		X		
ISV	X			
e-Mail			X	

Concluding non 3M	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail		X		
E-Platform			X	
ISV				X

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail	X			
E-Platform			X	
ISV			X	

Concluding Averaging	Best	Mod	Poor	Worst
Phone		X		
IM		X		
e-Mail		X		
E-Platform		X		

ISV			X	

Busiest trading hours (local time zone)
08:00
09:00
13:00
14:00
15:00

Do you ever trade outside of the office?	Yes	No
	X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone		X		
IM		X		
e-Mail		X		
Remote Access to Office			X	
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	X			
With Counterparty			X	
On the Desk		X		

Good Points (Quicker, centralised liquidity etc.)

Speedier execution, tight spreads, centralised liquidity

Bad Points (Not good for complex, etc.

Algorithmic trading systems have had a negative effect upon the market

Overall (any additional comments relating to e-trading platforms)

How has the advent of E-Trading altered the way you work orders?

Have to be very careful with orders as there are so many electronic systems plugged into the market [Note by RM, this is more the case in the Bullion markets], which is now much faster and more volatile than ion the past. Clients have also become more demanding on orders as spreads have narrowed.

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry	X		
Live Price Feeds	X		
Anonymous Bid / Offer	X		
Participation in a fixing	X		
Access to market stats		X	
Language Translation			X
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		
	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Centralised. Can hold conversations with a large number of counterparties in a small space

Bad Points (People not speaking as much, can be misunderstood)

Can miss things in the chats as the can become crowded

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?		X	
Do you use IM on mobile?	X		

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Craig Mounsey
Function (Dealer / AE)	Dealer
Company	MERM
City	Singapore
Native Language	English

Years experience	%
Under 5	X
5 to 10	
10 to 15	
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit			
Telex			
Phone	X	X	X
Reuters			
Bloomberg			
E-Platform		X	
EBS			
ISV			
e-Mail			
Public IM	X		
SMS	X		
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)		X	
Bloomberg (Closed)			X
Public IM			X
AIM		X	
OTC Trader Partially Closed)		X	
Other	X		X
Gmail			

Craig did not respond to the below

Reasons for usage	Critical	High	Med	Low
Customer Request				
Most used in Market				
Counterparty Request				

Ease of Use				
Functionality				
Security				
Privacy				

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM		X		
e-Mail		X		
E-Platform				
ISV				

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM		X		
E-Platform		X		
ISV				
e-Mail	X			

Concluding non 3M	Best	Mod	Poor	Worst
Phone				
IM				
e-Mail				
E-Platform				
ISV				

Concluding Options	Best	Mod	Poor	Worst
Phone		X		
IM	X			
e-Mail		X		
E-Platform	X			
ISV				

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
E-Platform		X		

ISV				

Busiest trading hours (local time zone)
09:00
10:00
11:00
15:00
16:00
17:00
18:00

Do you ever trade outside of the office?	Yes	No
	X	

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone	X			
IM	X			
e-Mail				
Remote Access to Office				
Other				

Comment: sometimes there are so many quotes thrown around it would be good to have an automated system that can read them all and pick out the good ones basis your marks.

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer	X			
With Counterparty			X	
On the Desk		X		

Good Points (Quicker, centralised liquidity etc.)

Transparency, Quick, Liquidity

Bad Points (Not good for complex, etc.

People who use automated execution systems. Some are complex and cumbersome, especially ENDEX, EEC

Overall (any additional comments relating to e-trading platforms)

If the platform is east to navigate around and visually appealing traders use it. We need simplicity

How has the advent of E-Trading altered the way you work orders?

Not changed much. Orders worked as normal

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry		X	
Live Price Feeds	X		
Anonymous Bid / Offer		X	
Participation in a fixing	X		
Access to market stats	X		
Language Translation	X		
Arb calc	X		
Option premium calc	X		
Calendar	X		
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

No idle chit chat, time wasting, conferencing [*Note from Rory. This bears out the absence of social chat, which did surprise me]*. Easier to follow numerous conversations.

Bad Points (People not speaking as much, can be misunderstood)

Can be slow as typed. Misunderstandings can arise.

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?	X		
Do you use IM on mobile?	X		

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	

Name	Sally Hemsley
Function (Dealer / AE)	AE
Company	MBC
City	London
Native Language	English

Years experience	%
Under 5	
5 to 10	
10 to 15	X
Over 15	

Platforms Used	Discuss	Trade	Conf
Ring / Pit	X		
Telex			
Phone	X	X	
Reuters	X	X	
Bloomberg	X	X	
LMEselect	X	X	
Spectron	X	X	
ISV			
e-Mail	X	X	
Public IM	X	X	
SMS			
Other			

IM Platform Usage	Often	Some	Never
Yahoo	X		
Reuters (Closed)	X		
Bloomberg (Closed)	X		
MSN		X	
AIM		X	
OTC Trader Partially Closed)	X		
Other			
Gmail			

Reasons for usage	Critical	High	Med	Low
Customer Request	X			
Most used in Market	X			
Counterparty Request	X			

Ease of Use	X			
Functionality	X			
Security	X			
Privacy	X			

Rating Platforms for different Usage

Discussing / Constructing	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
LMEselect				X
ISV				X

Concluding 3M	Best	Mod	Poor	Worst
Phone	X			
IM	X			
LMEselect		X		
ISV				X
e-Mail				X

Concluding non 3M	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
LMEselect				X
ISV				X

Concluding Options	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
LMEselect				X
ISV				X

Concluding Averaging	Best	Mod	Poor	Worst
Phone	X			
IM	X			
e-Mail		X		
LMEselect				X

ISV				X

Busiest trading hours (local time zone)	
	07:00
	12:00
	13:00
	16:00

Do you ever trade outside of the office?		Yes	No
			X

If you trade outside of the office, which methods Are primarily used?

	Always	Some	Rarely	Never
Phone				
IM				
e-Mail				
Remote Access to Office				
Other				

Since the Advent of E-Trading And IM how much of X reduction has there been in voice?

	25%	50%	75%	100%
With customer			X	
With Counterparty			X	
On the Desk	X			

Good Points (Quicker, centralised liquidity etc.)

Speed of Transaction, Transparency of price

Bad Points (Not good for complex, etc.

Bad for information flow, depth of liquidity, big orders can bully the system or simply not shown. Icebergs make trading decisions more complex.

Overall (any additional comments relating to e-trading platforms)

How has the advent of E-Trading altered the way you work orders?

As sales, try to discourage dealers from placing orders straight into the system as potentially reduces flexibility to give clients better fills.

Do you think extending IM functionality to incorporate the following would be advantageous?

	Yes	No	No Op
Order Entry		X	
Live Price Feeds	X		
Anonymous Bid / Offer		X	
Participation in a fixing			X
Access to market stats	X		
Language Translation		X	
Arb calc		X	
Option premium calc		X	
Calendar		X	
Trade Confirmation	X		
Your Position Lookup	X		
Client Position Lookup	X		

Any other functionality you think would be useful?

Good Points (conferencing, etc.)

Easier to deal with multiple clients simultaneously (depending on your typing and multi tasking skills!), Quick flow of information and prices, Ability for several sales staff to be included in one chat

Bad Points (People not speaking as much, can be misunderstood)

Difficult for clients to appreciate that you have multiple chat rooms open

Overall (Any other comments)

In the context of trading...

	Often	Some	Never
How often do you use SMS?			X
Do you use IM on mobile?			X

Do you think it relevant that front desk understand how the underlying technology works?

Yes	No
X	