

## Requirements for an Evolving Model of Supply Chain Finance: A Technology and Service Providers Perspective

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### Abstract

*This paper explores current models and practice regarding the dynamics of financial flows along global supply networks. Based on data collected from technology and service providers that focus on such issues along global supply networks, the paper identifies and discusses requirements for improved solutions to supply chain finance challenges. This research has particular relevance in the light of the disruptions that the global credit crunch has brought to global financial systems, and the changes that are likely as responses to these disruptions.*

**Keywords:** supply chain finance, financial systems, global supply networks, technology and service providers

### 1. Introduction

As the world's leading nations struggle to introduce a globally co-ordinated fiscal stimulus and a redesign of the financial systems to cope with the worst credit and financial crisis in the history of worldwide commerce this paper discusses some of the blockades to and solutions for global finance along global supply networks.

This paper uniquely takes both a financial and a technological perspective and explores the current model and dynamics of financial flows along global supply networks and suggests solutions to many of the challenging issues in this domain. Though the data collection for this research was completed prior to the credit crunch, the findings point to some of the solutions which are needed in order to improve the current system. A catalyst for change of supply chain finance structures, processes and practices is needed, and the credit crunch may bring about such an opportunity – if interventions and changes include a focus on maximising the returns to business while providing customer satisfaction and a network which works optimally for all involved. Based on our findings it is crucial that as financial systems are redesigned more discussion focuses on the transformation of the system rather than piecemeal changes which will not fundamentally address underlying flaws in the current system.

This paper utilises research from a core provider group - technology service providers within the financial service sector - as both information rich respondents and also integral players in global supply networks.

This paper is part of a larger research programme aimed at investigating new models for global supply networks that reflect the full capabilities of current regulatory, technological, organisational, management, and human aspects of contemporary business. The suggestions and discussion lead towards a model design which will merge the physical and service based distribution flow with the information and finance flows and align them with the necessary technology, while also remaining cognisant of organisational behaviour and customer needs.

### 2. Literature review

#### *Financial Aspects of Supply Networks*

The study of global supply chains has traditionally focused on product/material and information flows. The equally central and essential issue of capital and financial flows has received considerably less research attention (Fairchild, 2005). This situation is mirrored in practice in that the command and control systems of supply networks are generally designed and operated separately from the systems that manage and monitor financial flows along supply networks. As supply networks become more complex, geographically dispersed and with hundreds of players, the challenges for managing both aspects and both aspect together become even more critical. The uncoordinated physical and financial aspects of the supply network cause many problems which results in the failure to capitalise on the full economic value, efficiency and effectiveness that closer collaboration and alignment would bring (Bardy, 2006)

From the financial perspective there is often a narrow view of how the financial systems impacts on the organisation with an over focus on operating costs. Supply chain solutions are often of interest at CFO level only to the extent that they influence financial drivers like growth, profitability and capital utilization (Timme & Timme-Williams, 2000). There is also a major lack of open and transparent

engagement between partners in the business to business financial domain (Ballou, 2007).

There is more acceptance of speed and transparency in consumer finance. The chip and pin technology introduced to counteract fraud has speeded up the payment process for retail purchasing, though the banking system still operates in a traditional fashion behind the scenes. Systems like ATMs and online banking allow for instantaneous, transparency and global dealing with the resultant savings and increased efficiency for all (Reis et al., 2006).

Ecommerce is an important aspect of financial flows. There is a large literature on ecommerce as a core aspect of supply networks along with other technologies including: EDI, EFT, bar codes, fax, voice mail, CD Rom catalogues and so on but most are centred on the dyadic level (Croom et al., 2000, Giannakis & Croom, 2004). The focus should be on network technology which would help in developing ideal systems spanning all functions and organisations throughout the entire supply chain (see March, Raghu & Vinze, 2008). Pyne (2000:38) suggests that financial technologies are becoming dynamic elements in ecommerce dominated supply chains and suggests that e-commerce supply chains facilitate ‘the merging of physical distribution, information technology and financial services industries into one streamlined flow’. Dreyer (2002) suggests that ecommerce should be integrated with existing e-procurement solutions, to provide high levels of connectivity between buyers and sellers, and to deliver standardized electronic transaction data similar to Visa systems in the consumer domain.

#### *Technological Aspects of Global Supply Networks*

Aligned to the lack of focus on financial aspects of supply networks is a narrow focus on information and communication technology (ICT) along supply networks. The last few decades witnessed unprecedented expansion of computing power and rapid increase in information exchange through advances in ICT with the supply chain now heavily dependent on ICT (Manzoni & Islam, 2007). Unfortunately the rapid advancement of ICT has created a vacuum in knowledge and which has resulted in piecemeal, proprietary and unilateral solutions (Manzoni & Islam, 2007) when what is needed is a unified systems wide solution. The adoption of technology also varies across organisations. Technological barriers are often underplayed. Legacy systems and their impact and also the number of technology failures in the past can leave companies and managers less sure about or even negative to technology and this impacts on their current and future technology decisions (McAfee, 2006; Childerhouse et al 2003).

From a technological perspective much success has been garnered in the automation of the physical or service flows of the supply network but the information flows and particularly financial information flows at a much slower rate (Fairchild, 2005). Financial flows should be easier to automate due to their routine and repetitive nature. Companies are struggling to automate their financial flows and have been slow to accept both electronic invoices and payment systems even though they offer speed, transparency and promise cost savings (Berez et al., 2007). The Credit Management Research Centre in the UK revealed that only 35% of 400 surveyed businesses issued electronic invoices to their customers. Within the US the level of adoption is about similar at 30% with a recent Bain and Co report citing up to 70% of US business to business transactions are still paper based and the annual cost of managing this is \$116 billion (Berez et al., 2007).

The automation stage is a preliminary stage before the move to informational and transformational stages of IT assimilation (Nolan 1973; Nolan 1998). In the current system, new technology is being introduced to antiquated processes designed for a different era, so new technology is being introduced to old, traditional processes. New technology allows the system to go faster but does not necessarily provide any real improvements. The underlying flaws and issues within the system still exist.

What is needed is enhanced visibility through an information sharing mechanism linking supply chain partners (Legner & Schemm, 2008; Fang, Guo & Winston, 2008) but though these IT models are in high demand they are still in their infancy (Min & Zhou, 2002), and existing approaches and the standards that support them currently do not provide the level of coordination required (Legner & Schemm, 2008). Existing electronic solutions, such as EDI and ACH, are either relatively costly or do not deliver the detailed information needed to integrate with the buyers’ and suppliers’ other procurement processes (Dreyer, 2002; Roussinov & Chau, 2008). In a recent survey of 336 respondents across 12 industries only 53% had adopted an EDI system (Craighead et al., 2006).

A major contemporary focus in practice is on moving from dated proprietary cumbersome automation systems like EDI which predate the internet to more open source, flexible transparent systems using the internet platform. (e.g., Roussinov & Chau, 2008; see also Legner & Schemm, 2008). SteelNet, an extranet operated by the Finnish steel manufacturing industry, provides an example on how internet-based computing and communications provides an open platform where all partners can access information through a web based system (Iskanius & Kilpala,

2006), although this system does not embrace the financial flows.

#### *Information Sharing, Trust and Technology*

Current flows of information around most supply chains are still far from ideal and the problems of information distortion and magnification of order information abound (Lee & Whang, 2000). Many systems block rapid data transference to where it is really needed (Lee & Whang, 2000). A recent study of information sharing impact on the bull whip effect found that the effect was lessened when information was shared (Hsiao & Shieh, 2006), and novel ways of improving coordination and prediction based on internal information markets have been proposed (Fang et al., 2008).

A Fawcett and Magnan (2002) study found little evidence of information sharing and Ballou (2007) suggests that this is because of company's concern about the practice. Structural obstacles, competitive issues and motivation of profit (Hsiao & Shieh, 2006) and value in ownership issues (Childerhouse et al., 2003) as well as concerns about data security (D'Aubeterre, Singh, & Iyer, 2008; Johnson, 2008) are some of the many issues and the application of IS meets with a great deal of resistance in real situations. As discussed above much of the information sharing is with a narrow logistics focus. The challenge is compounded when companies have to share financial information (Johnson, 2008). Sharing of revenue generating information could give transparency to where benefit sharing is needed but benefit sharing techniques would have to be explored and developed (Ballou, 2007). Ultimately, the self-interest of supply chain partners need to be considered simultaneously with attempts to maximise the value-creation opportunities in the total supply chain. Overall, these information sharing and coordination challenges have not yet been fully met in practice (Legner & Schemm, 2008).

Given the exposure to companies involved in sharing sensitive financial information with potentially multiple partners, many of them often not directly linked to a specific firm sharing the information and thus less likely to be trusted (D'Aubeterre, Singh, & Iyer, 2008), the issue of trust has received increasing attention in the research on information sharing. Though called for in the literature, there is no centralised trust system for sharing information within the global supply network and especially financial, nor are there trusted third parties readily available to all supply chain partners (Fang et al., 2008). Within the customer domain there are systems like PayPal and EBay but no corresponding system exists in business to business. This leads us to the central

role of banks as the trusted third party within the financial flows of global supply networks.

#### *The Banking System*

An important but oft overlooked aspect of technology and information sharing is the central role of the banks as the core co-ordinator of financial flows. The questions which need to be asked are – what is the role of bank? Are they supportive of the system? And even do we need banks?

Though the introduction of the internet, ecommerce and other technologies has changed financial flows, the current system of banking is proprietary, burdensome, non compatible and non interoperable resulting in delays and costs that need not occur. What is needed is an open, transparent and standardised system that is aligned to innovative technology which facilitates access to finance and a payment method that aligns to business needs. Changes in the regulation of banks could herald these changes. Despite a common currency Europe still remains fragmented regarding payments across borders, though there are some attempts to introduce regulations like SEPA in this area. The introduction of standards should be a catalyst for change rather than more bureaucracy.

Banks have existed within a protected system with many barriers including the cost of banking technology prohibiting entry into the industry. There are now opportunities for non-traditional sources of capital to provide finance. Within a new or revised model new players may provide both the power and the liquidity, they also maybe the drivers of changes. Logistic companies like UPS (Payne, 2000; Hofmann, 2005) and Tesco and Sainsbury (Griffiths & Remenyi, 2003) may have both the funding and the systems to play this major role.

#### *Reconfiguring the Supply Network*

The challenges of designing a new global supply chain have been discussed within the literature. Redesigning it must take into account both the virtual and physical reality and should provide a range of advantages to business, their partners, their shareholders and customers. What is needed is a flexible system which can be reconfigured as aspect of the network change. A system which is responsive to changes anywhere within the network and globally. What has been referred to as the Triple A Supply chain – agile, aligned and adaptable (Lee, 2004). This integrated system would have a common data format and technology standards (i.e., between buyers and sellers) and seamless procurement-to-payment solutions (Dreyer, 2002).

Despite an extensive literature on integrated supply chains (Chen & Shang, 2006), and ESupply chains, demand driven supply chains and ecommerce

(Wareham et al., 2005) much of the technology development at the supply chain level is still in its infancy and a board design is still not developed and the financial flows aspects are not the major focus, nor aligned with other aspect. Also though changes to SCM have been suggested in the literature changes in reality have been slow with much of SCM having a logistics focus and collaboration focusing on a player and his top tier suppliers (see Ballou, 2007).

The catalyst of the credit crunch could force changes to the system which would benefit all. As the system must change the redesign must be aligned to leading academic comment and also the practicalities of the current system and level of technology and information sharing within the global supply network.

#### *Conclusion*

Financial flows are an under researched aspect of the global supply network and aligned to this technological innovations have not been embraced that will align all aspects of the supply network. Major challenges in the banking sector which is a core player in this area also exist. In light of the above a research programme was designed to explore the major but under researched focus on financial flows within supply chains aligned to the technological challenges. This research was designed to move discussion forward on how to redesign various aspects of the supply network.

### **3. Research methodology**

This research investigates the current systems of supply chain finance from the perspective of technology service providers within the finance sector. The research contributes to the design of a future supply network which has financial flows as a core and co-ordinating aspects along side the focus on materials and product flows.

Nine service providers were selected because of their involvement in an Intel led project to speed up cash flows along the supply chain. All participants are experts at providing localised technology solutions to financial flow challenges.

The interview protocol was designed around six main areas: the current situation; current trends and developments; technology and information management; players, networks and context; and future perspectives on supply chain finance.

All interviews were conducted by two researchers. The interviews were recorded and transcribed. All transcripts were analysed using NVivo software (QSR International, 2002) with each interview coded under the six main areas and then under categories within each area, such as 'problems' and

'solutions'. These categories were content analysed, looking for subject matter groupings and 'patterns that matter' (Miles & Huberman, 2000) among the interviews.

### **4. Results**

#### *Current status of the global supply chain financial flows*

The current status data indicated three main issues the participants considered as particularly important to the current financial supply chain. First, the enduring separation of the physical from the financial. Study participants indicated that a lack of synchronization and integration between the physical and financial flows contribute to inefficiencies in supply chain management.

*"You know the industrial revolution kept moving, and it made the whole physical manufacturing processes more efficient but none of that was ever translated across. Actually none of that was ever translated across into the [...] financial."*

Respondents believe that the physical supply chain has already been significantly optimised through goods tracking and implementation of software such as Oracle and SAP. However, respondents agree that the financial flows have not received the same attention. The lack of a link between electronic freight-forwarding devices and other systems and the dominance of the paper format and the lack of interplay between the physical and financial supply chain reduces the amount of available working capital and results in liquidity problems, particularly for SMEs.

The second main issue the respondents identified is the significant lack of automation in supply chain finance. This lack of widespread automation prevents financial information from flowing freely through the system. The lack of buyer-supplier technology-based automated financial systems created major costs in many areas including disputed invoices and resulted in inventory in transit as effectively a non-performing asset. Several factors were identified which inhibited automation. They included: legacy technology; the lack of a cross-enterprise identity scheme; an emphasis on creating cheaper electronic invoicing technology rather than better technology for the scale-up of electronic invoicing; and the perception and fear of automation with respect to security or job losses. Major corporates' current focus is to automate the tracking of goods and process management though there was some evidence of advances in electronic payments and invoicing though only with key suppliers in closed communities. Where there were efforts to provide automation it was usually government driven

targeting specific individual industries such as the paper and fish industries.

The third main issue the respondents highlighted is the institutional arrangements supporting supply chain finance, most notably the banks. All respondents described these financial institutions as the major players in current systems. Bank embedded involvement at every point in the financial supply chain (the four corner approach) was considered a big burden. There was a view that the large banks are not customer focused and have a vested interest in preventing large-scale automation because they profit from the complex processes as these are usually charged for on a fee for service basis. Many internal company systems do not match the bank's system and so companies must pay the banks who will not generate suitable electronic files.

Respondents indicated that there is currently no large-scale real-time payment system. Existing payment models are often cumbersome, lack transparency and are country-specific with no inter-system or even inter bank connectivity and communication. Respondents describe the current system of information management and sharing for financial flows as a costly and challenging undertaking. Use of invoices and cash, along with a lack of transparency in the pricing of financial products and services, by financial institutions were blamed for increasing costs to businesses within the network.

Respondents believed that invoices are not processed quickly enough and are seen as administrative tasks with no value placed on the speedy electronic exchange of data. Actually there is a traditional but false perception that there is value in holding on to invoices as long as possible. Respondents generally believe that more efficient arrangements for financial flows along supply chains would disenfranchise banks.

#### *Current Technology and Information Management*

There was a clear view that the inefficiencies in the financial flows are not due to a lack of technology. Respondents indicated that the technology necessary for global supply chain financial management already exists, and inefficiencies are largely due to a lack of clarity of the benefits versus the costs of implementing and a perception that new technology are complicated and confusing. Another obstacle was the lack of channels for the technology vendors to sell business to business technology systems targeted at the supply chain as the focus is on developing low-cost retail consumer technologies. The lack of a standard technology was also an issue as customised, proprietary softwares are used which

are costly and non compatible. Standardisation and harmonisation of systems would make it easier and cheaper for all. If access was improved, the cost of technology would decrease and information exchange would increase.

Corporate technology was considered more advanced than banks' technology, and this creates an obstacle toward improving financial flows. Existing technologies discussed by respondents included EDI, barcodes, and the internet. Respondents believed EDI was a useful technology to improve automation of the financial supply chain though with limited actual adoption. The internet was identified as the vehicle of choice to allow businesses to manage the financial flows. The internet was described as mature and trusted enough to improve financial flows in the global supply chain.

**Legacy and Incompatible Systems:** Current software often consists of legacy systems and in non compatibility with banking software. This creates silos of information. Within banking much of the software is designed for improved security, fraud management and risk management rather than the optimisation of the supply chain. Respondents discussed lack of confidence in electronic security for financial payments among corporate users as issues.

**Information Sharing and Trust:** Though the use of managed services and outsourcing has increased information sharing there are also vested interests in not sharing some information because sharing proprietary information reduces their influence in the whole process and increases the risk of competitors getting valuable information. No trusted middle provider exists for managing financial information. The current status of information sharing was segmented and not standardised.

Respondents believe the economic value of information sharing must be demonstrated to achieve critical mass. Office Depot was cited as an example of effective information management and sharing. Office Depot requires all their suppliers to trade electronically and give their suppliers the services and ability to share information to improve process efficiency and allow buyers and suppliers to make better risk management decisions.

**Corporate Barriers:** Resistance to change within corporates was also considered a bottleneck to adoption. There was some evidence that some departments in larger organizations have a vested interest in not automating the invoice process. There was evidence of living off their suppliers' balance sheets by paying later and this was an obstacle to improving financial flow.

**Barriers to collaboration:** Many networks centre on one major player while others have more equal groupings of players. In relation to collaboration, several respondents describe the collaboration between players as poor. This is attributed to the fact that there are too many players along supply chains. For one transaction there could be as many as 40 documents that come into play and these documents could emulate from up to 10 or 20 different companies.

#### *Current Role of Regulation*

Regulations, regulatory institutions and legislative powers are crucial features of financial operations. Respondents believed that regulatory bodies do not function directly in the trade cycle, and that there is no need for regulators in a trusted environment. However, some respondents mentioned that governments, such as the Pan-Asian, U.S. and E.U. governments, are attempting to automate documents in order to make their countries more competitive in the market - for example e-Invoicing.

There was no definitive consensus on whether governments had a positive role to play in the development of electronic trade. One perspective for some respondents was that the regulatory authorities are obstacles to electronic commerce. Respondents feel that E.U. governments do not provide clear guidance on what is acceptable for electronic trade and inhibited efficiency for corporates by requiring paper-based VAT invoicing. In contrast, other respondents believed regulators do not cause the inefficiencies in the market. There was a lack of consistency across areas and industries with some heavily regulated.

#### *Future trends in supply chain finance*

The next stage of the data analysis focuses on the future expected trends but there was disagreement on what the future of financial flows would look like, with replies from no major changes in financial flows to suggestions that there will be significant restructuring and consolidation of banks. Specific changes in automation, standardisation and payment structure were identified as components of the future financial supply chain.

**Automation:** Most respondents stated that an automated, global standard payments system would be implemented in the next five years and invoicing and payment will no longer be done via post. This automation was expected to reduce administrative burdens on businesses; allow large buyers to hold on to working capital longer; and facilitate business-to-business access. Alternative some respondents believed that paper-based VAT systems will continue to constrain automation for

years to come and global acceptance of automation will take a long time because the high cost of automation cannot be justified in every country.

**Common or Interoperable Standards** were considered a necessary requirement. However, respondents disagree on how standards will contribute to financial flow, whether one standard can or would be developed and if there is one standard that could be agreed for all markets.

**Closed Systems:** Most respondents opted for a closed communication networks with certification by a trusted third party, and corporates will utilize information exchanged with partners through information catchers such as BUS systems.

**New Technologies:** The main focus on new technologies was reducing energy consumption and increasing battery power of existing technology, particularly relevant in the developing world. Respondents believed hand-held and wireless devices, such as pocket PCs and mobile phones and PCs will enable rapid electronic payments, information passing and decision making for the supply chain. Respondents believed existing electronic communication and the internet will have matured enough to be trusted for large-scale electronic commerce, and that existing technology could cause post-based letters of credit or guarantees and face to face bank manager interactions to look archaic within five years.

#### *Future Players and Network*

**The role of banks:** The pressure from the business world was towards demanding more of banks, forcing banks to become more customer-focused. Some banks were described as recognizing opportunities in the financial supply chain and changing their internal processes to take advantage of future opportunities. However, banks were criticised for their efforts to exploit the financial supply chain *individually* rather than to cooperate to develop financial flows infrastructure. Respondents anticipated a trend toward globalization of banks with bank branches closing and corporates reducing their number of bank partners and accounts within Europe.

**Corporate to corporate trading:** Several respondents believe banks are no longer needed as intermediaries because more liquid communication and market dynamics mean buyers can start to build direct relationship with sellers. Respondents believe corporates are obtaining less funding from financial institutions and more funding from other corporates for trading. Major corporates were considered less dependent on working capital for funding and thought to have better credit than financial institutions.

**New entrants within banking:** Three respondents believe specialized services and niche players will establish themselves in the future financial flows. There was some discussion as to the emergence of new players within the banking field but no consensus as to who would be the main powerful player.

Transport providers or freight carriers were cited such as DHL, UPS, Federal Express or Maersk along with Tesco, Sainsbury, Intel and HP, all of whom could manage out-sourced corporate services because they have deep pockets and the ability to execute. Transport providers have the advantage of existing electronification of the supply chain via freight forwarding and are already managing corporate logistics transports departments.

*Requirements for an Evolving Financial Flow Model*

Having reviewed the current and the projected model the respondents then focused on the requirements for and the possible nature of an evolving future model. These requirements address both current limitations and possible improvements and additions to current financial flow and supply chain finance arrangements. Table 1.1 summarizes these requirements.

**Table 1.1 Requirements for an Evolving Financial Flow Model**

<b>Standards:</b>	Creation of global, common or interoperable standards which recognises diversity.
<b>Merger of the physical and financial supply chains:</b>	An electronic environment that combines all relevant information regarding the financial and physical aspects of supply chains in secure, transparent, real-time manner and enables joint command and control of physical and financial flows.
<b>Automation:</b>	End-to-end electronic, from purchase orders to all trade finance documentation and payments should be seamless and of minimal cost.
<b>Accessibility – open source and all players:</b>	Open source device that is universally accessible and customisable.
<b>Greater Information Sharing:</b>	Protocols for information sharing and an authentication method for identities.
<b>Information management techniques:</b>	Appropriate management of the effective use of that information.

<b>Trusted Third Party or Exchange Hub</b>	A coordinating player or trusted intermediary. Suggestions includes major corporates, banks, trusted companies like Reuters, governments, standards agencies (like Swift) and regulation
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*Further research*

Further research on current practices underlying these identified requirements, as well as research on possible solutions that meet these requirements, is required. The present research is part of a wider study that plans to address, in successive steps, the perspectives (a) of banks and other relevant financial institutions; (b) of large corporates and small and medium sized businesses, i.e., the actual users of the present systems, and (c) end consumers, governments, and other stakeholders. All of these are crucial to provide an analysis of the complex supply chains' financial flows in a variety of contexts. This required future research can provide further inputs into evolving models of supply chain finance.

**5. Conclusions**

The results of this research clearly indicates major problems inherent in current arrangements and practices of supply chain finance. Substantial benefits exist in novel approaches and models. The requirements for such innovative developments identified and formulated by the expert participant of this research provide a useful contribution to the current debate on the nature and role of global financial systems.

The main findings are that standards are needed to creating a global, common, transparent and interoperable system which recognises diversity; that automation of the system and the merger of the physical and financial supply chains is an imperative. Further, this research suggests that an open, probably internet- or mobile-based system is likely to form the infrastructure of a shared system that needs novel information management techniques and greater information sharing willingness among supply chain partners. For this the development of trust, for example through a trusted third parties or jointly operated information exchange hubs, is also crucial.

There is a critical need to re-design existing financial systems. Given the current background of a global financial crisis and the immense economic impact of the limitations in liquidity, any improvement in available liquidity from the user side, for example through more efficient financial flows, can be useful for the system as well as for the participating firms. Moreover, progress in developing inter-organisational systems that promote more efficient

financial flows and also provide better financial transparency and therefore better risk assessment and -- ultimately -- more successful risk management can provide important benefits.

Given the often desperate reactions of markets, corporates and governments to the global financial crisis, public and corporate interest in and likely acceptance of regulation-driven change in the financial services system has increased tremendously. In contrast to the views of the studies participants, expressed before the current financial crisis, that regulation and legislation is unlikely to provide the impetus for change, recent development in the financial, economic and political landscapes have opened the opportunity for fundamental, centrally driven change.

This paper contributes to the current debates and crucial discussions of how to redesign global financial systems from a technological and service provider perspective. It highlights clearly that changes to the financial system are inevitable and point to areas which need to be aligned and to the challenges which need to be overcome. The key issue is that change should not only address the limitations of current systems identified through the financial crisis, but should also take into account the inefficiencies and shortcomings from operational and technological perspectives.

Now is the time to move collectively. The current financial crisis could be an opportunity to drive widespread changes to the system. There changes are needed but if the perspective is once again the protection of the banking system then a major opportunity will be lost. We now have the impetus and the opportunity to make major and radical changes which will benefit business, the economy and society for generations to come.

## 6. Acknowledgement

We gratefully acknowledge partial financial support for this research by Intel Ireland. Particular thanks to Brendan Cannon and Nigel Woodward, both of Intel Corporation, for their support.

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