



Personal Knowledge Banks

Putting the power of personal data in the hands of individuals

A Buyer-Centric Commerce Forum Discussion Paper

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Summary

- Current organisational approaches to the acquisition and use of personal data are hitting inherent relationship and structural limits and now face diminishing returns. For example, many different organisations collecting many different slices of information about the same individual can never really develop a 'single view' of this customer. Ultimately the only entity capable of ensuring 'a single customer view' is the customer himself.
- So far, organisations have focused all their efforts on extending and deepening their ownership and control of personal data. However, helping individuals collect and manage their own data opens up much richer opportunities for both individuals and organisations.
- Personal Knowledge Banks combine all an individual's data – personal, administrative, transactions, plans and preferences etc – in a single or connected group of databases which are owned and controlled by that individual.
- Over time, the data available within Personal Knowledge Banks will grow richer, deeper and more accurate than the data available within organisations.
- Personal Knowledge Banks represent a huge new market with the potential to transform the relationship between individuals and organisations and the ways organisations collect, manage and use data. At the same time, they address a wide range of privacy and data protection issues.
- Organisations that help place the power of personal data in the hands of individuals will be offering them a great and valued service – while potentially playing the pivotal role of 'interface manager' in a fast-changing commercial landscape.
- Personal Knowledge Banks raise many technical, legal, database management and relationship management issues. These hurdles can and will be addressed. But to facilitate this, we need to encourage the sharing of ideas and emerging 'best practice', and to explore new business models.

Introduction

Ever since the computer was first invented and the database became a reality, companies have sought to gather, analyse and use data to improve operational efficiency, develop insights, innovate and communicate more effectively.

Many commercial organisations see their data as a strategic asset – something which they own and control, which competitors do not have access to, and which gives them competitive advantage. Likewise, many governmental and public service organisations recognise that rich, comprehensive data lies at the heart of their ability to fulfil their purposes. Much of the current spend on the UK National Identity Card scheme, for example is as much about putting a large ‘customer database’ in place as it is about providing identity tokens to people.

In the beginning, the IT revolution focused internally: on internal administrative and accounting processes, for example. But in recent years, attention has shifted to external relationships. Customer data – collections of information about customer attributes, preferences plus records of previous transactions and interactions – has become increasingly important: every organisation wants to manage its dealings with customer more efficiently and more effectively. For companies, this is a secret of customer satisfaction, ‘loyalty’ and profitable repeat sales. For the public sector it is the secret to cost reduction through moving people to less expensive channels and reducing fraud.

A common assumption unites all these activities and projects: the assumption that customer data is something that is collected, owned, managed and controlled by the organisation in pursuit of the organisation’s goals. This assumption is being shattered. And in the process, all the activities and projects based upon it could be transformed.

We believe individuals are going to claim ownership and control of their personal data to use it in furtherance of their own purposes. One of several mechanisms they will use to do this is the Personal Knowledge Bank. Over time, the data available within these Personal Knowledge Banks will become richer, deeper and more accurate than the data available within organisations. And where the individual wishes, or is incentivised to do so, that data may be made available to organisations – on terms set by the individual or their agent. This will not eliminate the need for

large organisational data-sets. But it will change many of the processes around how they are used.

The Personal Knowledge Bank in outline

A personal knowledge bank is a master personal – or ‘customer’ – information database that is owned and controlled by an individual for the benefit of that individual.

Fully-fledged ‘mature’ Personal Knowledge Banks will include personal administrative and demographic data (e.g. name, address, occupation, National Insurance numbers and tax references, etc), cumulative transaction and interaction records, customer behaviour data (e.g. ‘my personal music library’), personal preferences and future plans (e.g. ‘my next summer holiday’; ‘my home improvement project’).

Individuals will use Personal Knowledge Banks to streamline the organisation of their everyday lives, to interact with suppliers of goods and services, to interact with like-minded people and peers facing similar situations or problems, and as a tool to help them reach their own, personal goals.

- Over time, the market for Personal Knowledge Banks and related services will grow to become larger even than today’s market for Customer Relationship Management infrastructure, software and services.
- Personal Knowledge Banks will become one of the main interfaces between individual and organisations, transforming both the content of customer/organisation interactions and the processes used.
- Personal Knowledge Banks will trigger the growth of rich new markets, which are currently ‘white space’ or ‘virgin territory’. These new markets will become an epicentre of technology and service innovation and improved customer value.
- Personal Knowledge Banks also represent a huge opportunity for organisations. Counter-intuitive as it may be, the Personal Knowledge Bank represents the answer to many current corporate customer data and relationship management problems; and an opportunity to improve organisational efficiency. It will also become the key to efficient, effective ‘joined up’ Government and public service.

In short, the Personal Knowledge Bank represents a massive opportunity for both individuals and organisations to cut costs, streamline processes, add new dimensions of value and create new markets. It is a new win-win frontier for an ongoing IT and customer data revolution.

Making Personal Knowledge Banks work efficiently, conveniently and securely to realise these benefits is, however, a major challenge.

The rise of personal data management

The first computers were hugely expensive, cumbersome machines that were only used by extremely rich organisations for special purposes. As computing power increased and costs fell, however, the uses of computing power have multiplied and computing itself has begun to 'democratise'. Today the PC, the Internet, mobile devices and so on are all placing more 'information power' in the hands of the individual.

- Today, more and more personal data and processes are being digitised
- Slowly but surely, individuals are transferring paper-based data such as diaries, personal address books and telephone numbers to PCs or personal organisers.
- More and more individuals have an electronic record of 'conversations' and interactions, because so much more communication takes place by email. For example, Google's somewhat controversial free email service promises to keep a record of all the emails you send and receive up to a limit of 1Gb of memory.¹
- Customers and citizens are being encouraged to conduct ever more administrative processes online in 'self-service' mode - e.g. online banking, filling in tax returns online, receiving bills online, etc.
- They are keeping ever more 'private' digitised information such as personal music libraries and photo libraries in digital form. In addition, many use packages such as Quicken or Microsoft Money to record personal financial data, downloading transaction level data from their banks.
- Clever devices such as personal video recorders keep a digital record of their personal consumption behaviours and usage habits.
- In addition, most large organisations now have an electronic record of dealings with individuals, whether it's in the form of a loyalty card database, billing or transaction histories.

¹ We see Personal Knowledge Banks growing to many hundreds of gigabytes and beyond over time as many years worth of data builds up. However, this scale will be manageable thanks to falling costs of data storage and the increased value of the data being stored.

Digitisation of personal data will continue for the foreseeable future as we move gradually from the old analogue ways of doing things to an increasingly digital world..

Separately and together all of these developments are opening individuals' eyes to the potential value and uses of collecting, storing and using personal data, both for themselves and for the organisations they deal with. They are also becoming increasingly aware of the pitfalls of not doing it well, securely or efficiently.

However, if individuals are becoming ever more accustomed to storing and using personal data (and to such data being and collected and stored about them), at present, the overall picture is a mess. Data resides in a wide range of technology and database silos that do not 'talk' to each other (including the old shoe-box in the attic with the birth certificates *et al*). Our ability to access, analyse and manage this data to add value is extremely limited. The processes of collection and use are clunky. Our ability to communicate this data efficiently in a useful form is virtually non-existent.

In short, when it comes to the management of their own personal data, individuals currently face the same basic problems that organisations have faced for years (and to a large extent, continue to face).

The challenge of organisational data management

More, richer customer data promises organisations the opportunity to do many things: understand customer behaviours and trends better, identify life time customer value and act accordingly, generate insights that drive innovation, improve targeting of communications to increase cross-selling, reduce operational costs (via, for example, self-service online banking).

These organisational benefits are real: if companies weren't already collecting and managing personal data for these purposes, they would have to invent a way of doing so.

There are, however, inherent limits as to how far organisations can go down this road. Progress in these spheres is becoming asymptotic: some incremental gain is always possible but diminishing returns have set in.

The two most important limits relate to:

- The structure of markets: *how* individuals and organisations relate to each other.

- Conflicting (or at least non-aligned) purposes: *why* individuals and organisations relate to each other.

Structural limitations

The structural limitations of the status quo are best shown by organisations' quest for 'a single customer view'. As currently interpreted, 'a single customer view' reflects an organisation's attempt to collate all information relating to that organisation's transactions and interactions with a customer from a variety of different organisational and data silos (different business units, product marketing databases, distribution channels, and so on). Only if you have a single customer view can you accurately work out likely life-time value, see transactions in context and set marketing priorities.

However, this 'single customer view' is in fact incredibly partial and restricted. In most industries, most customers deal with many different suppliers. For example, you may have a current account with one financial institution, a loan from another, a pension plan with another, a mortgage with yet another, life insurance with another, and so on. Each one of these organisations' attempts to build a single customer view on the basis of the information generated from its own transactions is inevitably and irremediably flawed².

In addition, each one of these organisations' attempts to build 'a relationship' with their customers ignores the fact that these customers are having to manage many different relationships with many different suppliers, simultaneously. When you consider that an individual with a moderately complex lifestyle can easily have 50 suppliers attempting to build a 'relationship', is he/ she supposed to allocate perhaps half a day per week to 'relationship building with my suppliers'?

What's more, even if the organisation's view of the individuals' total category transactions is nearly comprehensive (say, it has access to 60% or 80% of purchases in the field of groceries or financial services or energy), it still has very little idea of the context. What are this individual's current plans, priorities, goals etc?

The current data set-up is therefore limited in two crucial ways:

² For an academic analysis of these structural limitations, see the paper Customer Managed Interactions by Richard T. Watson (rickwatson@mac.com) Gabriele Piccoli, M. Kathryn Brochman and A Parasuraman, See also the *Harvard Business Review* (November 2005) article 'I am my own database' by Richard Watson.

- it is restricted to narrow 'silos' which do not give a rounded view of the individual;
- while it provides many details about the past, it tells you nothing about the future (the individual's current plans or priorities).

Of course, organisations can seek to fill the holes by adding extra layers of third party data and via predictive modelling (i.e. sophisticated guesswork), but ultimately this is simply filling the cracks created by a structural flaw in the foundations. Ultimately, there is only one entity that can provide a single customer view: the customer, or individual, himself or herself. So far, however, individuals lack both the tools and a compelling reason to do so.

Working at crossed-purposes

The second limitation is equally fundamental: the purposes to which customer data are being put. Today's commercial environment is overwhelmingly seller-centric. Organisations seek to maximise their profitability by selling more, more efficiently and more effectively (i.e. via improved targeting of messages, positioning of offers and so on). As such, their activities and priorities are driven by their own search for (profitable) customers.

As individuals, however, consumers are also seeking to maximise their own 'profitability'. They want to find and get the most appropriate, best value from the market, so their activities and priorities are driven by their search for value. These two goals – organisations' search for customers and individuals' search for value – generate different processes, measures of success and efficiency, and uses of data. The result is that, currently, the purposes to which organisations want to use customer data for have very little to do with the purposes individuals want to use data for.

Customer Relationship Management (CRM) is a case in point. By collecting and using customer data more efficiently and effectively, CRM promises to deliver organisations higher levels of customer retention and cross-selling at lower cost. Whether it does is beside the point, which is this: these purposes, which are driven by sellers' go-to-market goals, are at crossed purposes to customers' go-to-market goals. This combination of structural limits and crossed purposes means that customer data (including CRM) can *never* deliver the full range of benefits that companies hope for. Sometimes huge investments are necessary for these projects. But they add little value for customers.

In theory, a company may be able to overcome the structural limits created by organisation-centric data capture and use by persuading customers to invest time and energy to provide ever more, richer information: to *volunteer* further information. However, there are two reasons why this will always be a rare exception:

- Because the seller-centric purposes of the organisation do not align with the buyer-centric interests of the individual, the individual has little incentive to bother investing effort or information into the relationship. Indeed this misalignment of interests can create new problems for organisations – such as when individuals volunteer spurious or inaccurate data in order to get something they want from an organisation.
- Every individual has thousands of dealings with hundreds of different suppliers across the main different ‘departments’ of his or her life: home maintenance, home replenishment, travel, personal communications, personal financial management, personal health etc. The time and hassle costs of volunteering information and investing in such relationships are very high. The chances of any individual making such investments in more than a handful of such relationships are very low. This means that the vast majority of these organisations will never gain the investments they need to fill the holes in their data/marketing strategies.

As a result of this impasse organisations also face a number of ongoing operational difficulties with their customer data management. These include:

- Data overload: organisations can now collect vast amounts of detailed customer transaction data (look at retail loyalty cards, for example). But even the best of these organisations struggle to make sense of the data, or to use it in such a way that the benefits outweigh the costs. One missing ingredient here is *volunteered* data – the voluntary input and maintenance of customer preferences, priorities and plans that puts this information into some sort of perspective and gives it meaning.
- Data poverty: even as organisations drown in data, they also find they don’t have enough of – the *right* data. Richness in one dimension (vast quantities of historical transaction data) sits next to poverty along another dimension: context; a genuine single customer view.
- Privacy: Data poverty drives organisations to collect ever more data in order to ‘round out’ their understanding of their customers. Yet, because customers see

very little value in this data gathering exercise – and because the data is not being volunteered by the customer – this very attempt to ‘solve’ the data problems creates a new problem elsewhere: potential infringement of privacy legislation and/or customer resistance to ‘intrusion’ and increased concerns about privacy.

- Database cleansing: Keeping records up to date (gone aways, deceaseds, etc) is a major hassle and cost for every data holder. Because there is no single ‘master’ data set that’s continually updated and corrected, this cost is never ending. It could easily be overcome if customers saw fit to continually update and correct data about them at a central ‘master’ database. But the structural/purpose-conflict drawbacks discussed above currently rule this option out.
- Data protection compliance costs: UK Government research estimates that it costs UK Plc £100 billion per annum to manage the ‘red tape’ associated with legal compliance to data protection legislation. The costs of collection, storage, management and security of personal data are significant and so are the financial risks (e.g. £5K per breach under Data Protection Act).³

To summarise: today’s personal data management system is inefficient, ineffective and fundamentally flawed in both its design and operation. It generates massive redundancies and duplication of effort across scores of separate organisations each seeking to put individuals on their own databases for their own purposes, while failing to deliver hoped-for goals or meet the information management needs of individuals. Because these drawbacks are inherent to the way the system currently works, tweaking and improving legacy approaches and systems does not offer a viable answer. We need to take a different tack.

Key drivers

Some of the core ideas behind Personal Knowledge Banks are not new – in fact they’re nearly ten years old. Much has happened in the decade since these ideas were first discussed⁴ and even more is going to happen in the coming decade. Here are some of the key ‘push’ factors:

- *Socio-economic change* The rise of the Internet and the effects this is having on media consumption, shopping and other habits and expectations.

³ These risks do not seem to be being provided for in the financial accounts of large corporates. A recent discussion with the HR director of a major corporate with 14,000 employees uncovered a £3m p.a. cost and risk of £70m to store employee records which, by definition, they do not own.

⁴ See ‘The Coming Battle for Customer Information, John Hagel and Jeffrey Rayport, *Harvard Business Review*, Jan 97

- *Technology push* The widespread availability of broadband and its related 'always on' capabilities, pervasive mobile computing, the falling cost of data storage and most significantly the rise of 'XML' as an efficient means of moving data across and between disparate systems.
- *Organisations' push for competitive advantage* The significant rise in the volume of messages sent to individuals, through multiple channels and devices, the drive to build data to 'personalise' the customer experience, and 'big brother' approaches to day to day life such as digital rights management.
- *Consumer reaction to organisations' activities* The rise of privacy activism, marketing opt-outs (such as the US Do Not Call system) and privacy enhancing technologies, plus significant reductions in trust of large organisation and government.
- *Legislative trends* are giving individuals more control over their own data. For example, in the US, from the beginning of 2004 the Fair and Accurate Transactions Act consumers were given free access to their credit reports held by organisations such as Experian and Equifax – a tiny step, but in the direction of increased consumer control over data and its uses.

On the 'pull' side both individuals and organisations have good reasons to welcome the rise of Personal Knowledge Bank services:

- Individuals: increasing demand for better, more efficient ways to manage the increasing amounts of personal data held and communicated in digital form (see Section 3, above). The creation of a central digital 'master' database feeding many different devices and functions is key to streamlining personal digital data management.
- Organisations: increasing incentives to overcome the inherent limitations of current customer data strategies and structures.

For example, it is in the interests of all health-related product and service providers to have access to a complete record of all of the health records/information of an individual (subject to data protection laws and that individual's permission, of course. This 'single customer view' might include core data about the individual (age, blood type, national insurance number etc); medical, ailment and treatment history from different providers (e.g. the UK's NHS, private health providers, alternative therapies etc); lifestyle factors such as diet, exercise regime, occupational stresses; life

assurance details; relevant family medical history. And of course having a single, holistic bank of health data (subject to appropriate security/ access controls) is certainly in the interests of the individual. This fact seems to have been lost in the design of the NHS's multi-billion pound 'electronic patient record' which has chosen to focus on internal efficiencies of the NHS rather than the more holistic requirements of the individual patient.

Likewise, the UK's Department for Education and Skills wants to create a single ID for every child, in order to coordinate the provision of all child-related services so (for example) social workers can more easily work with teachers to deal with children with problems. This is a worthy and well meaning project, but by taking a different approach the designers could avoid the various privacy and legislative barriers it currently faces.

A new market

Personal Knowledge Banks effectively create a new market for added value personal information management services. Potential benefits include:

- Simple **convenience and service richness** for individuals in the collection, storage and use of personal data.
- **Community creation.** PKBs may well become the springboard of new communities and peer-to-peer services. The PKB service provider may look for people with similar attributes/experiences to compare notes, provide each other with advice, etc. Likewise, PKBs could become a convenient platform for connecting with peers and family members to share information, find connections and realise aggregate value.
- **'Solution assembly.** To help individuals manage complete 'life departments' such as 'my home' or 'my personal finances' better, any solution assembly would need access to a) all existing transactions and relationships, and b) the individuals personal context and priorities. PKBs provide the necessary information infrastructure for such services.
- **Facilitation of digital purchases,** e.g. automatic population of online transaction forms, proof of identity, mechanisms for anonymous purchases via a PKB service provider etc. ⁵

⁵ An early experiment in this was from Securicor's SafeDoor concept, where all customer details (including credit card number etc) was held by SafeDoor, which then conducted the transaction on

- **Facilitation of digital sales.** To sell a car or a house nowadays individuals need to provide prospective buyers with a record of services, repairs and maintenance, etc. The UK Government is planning to make it compulsory for house sellers to provide this sort of documentation for buyers. By collecting and storing this data in digital form, Personal Knowledge Banks will facilitate these processes and many more like them.
- **Personalised recommendations,** such as the ‘If you liked this, you might like that’ suggestions already offered by Amazon. Amazon’s recommendations are based only on the customer’s transactions with Amazon. A Personal Knowledge Bank would offer a much richer, rounder data set as a basis for even more finely tuned recommendations.
- **Better, more appropriate advice.** To give ‘best advice’ an independent financial advisor needs a full and accurate overview of his customer’s financial affairs, ideally including all the customers’ financial transactions and relationships. PKBs would ‘naturally’ provide this data, making the provision of expert advice both simpler and cheaper, and richer. A spin-off benefit would arise in this and other areas in that the provision of audit trails would be a built-in capability of a PKB – imagine how much easier it would be to un-pick the mis-selling of a financial services product if a good record of the transaction and the circumstances surrounding it were stored in the individual’s PKB.
- **Personalised and customised products and services.** If a supplier is allowed access to an individual’s current category information – say, ‘my current personal computing hardware, software and peripherals’ – that supplier is in a better position to solve problems and construct ‘best next purchase’ suggestions.
- **Targeted marketing messages.** It’s a common complaint among advertisers that they invest too much money communicating to the wrong people. It’s an equally common complaint among consumers that they are always being hassled by advertisers who push irrelevant messages at them. PKB-facilitated targeted messaging could eliminate this mismatch. It would work like this. 1) The individual notifies his PKB service provider of his willingness to receive messages about a particular category/subject during a specified time frame. 2) Those suppliers fitting these criteria are allowed access to certain pre-specified, relevant data fields within the PKB. 3) They then use this data to create tailored, targeted offers

behalf of the customer. In this way, customers could ‘hide behind’ the façade of third party agent in transactions if they wanted to.

which they know are relevant to the consumer in question. As the suppliers know that they are in a competitive pitch for some real business then their 'best offers' will be forthcoming. In this way, waste can be turned into value for both sides.

- **New go-to-market processes.** This is a twist on targeted marketing messages. Here, the individual signals his/her intention to buy X or do Y and asks for 'tenders' for the business. The benefit for sellers: pre-emption of existing go-to-market mechanisms. For example, if an individual signals his intention to buy a car or holiday some time over the next two to three months, sellers monitoring such signals from PKB service providers can communicate with the individual and perhaps close a transaction before other sellers even know the individual is coming to market.
- **Market research.** PKBs represent a potential gold mine for market researchers looking for correlations between say, product portfolios, consumer demographic and other attributes, and other lifestyle behaviours. Market researchers will have to pay for access to this data (which, remember, can only be accessed with the permission of the individual). But many individuals will be happy to allow such access, especially if it is on an anonymous basis and earns them a little cash on the side.
- **Improve innovation.** Many companies (such as Confetti.co.uk) have already learned that be encouraging individuals to post messages saying 'I'm looking for a product or service that does this, but I can't find one. Can anybody help?' they have access to a rich source of ideas for new products and services. PKBs could easily formalise such a process.
- **Personal management.** Not every individual wants to appear the same to every service provider or seller. Individuals have their moods and modes – hard-working saver; fun-loving extravagant holiday maker; concerned parent; fanatical football fan – and may want to present different 'faces' (or even anonymous faces) to different people on the world outside. By choosing which data to make available, individuals can use Personal Knowledge Banks to do this.

One way of understanding how Personal Knowledge Banks will work is by way of an analogy with a city. In a city there are some spaces such as public parks where you go about your business and remain anonymous. There are other spaces, such as the road where you live, where you are likely to be recognised when you make a public appearance. Inside your office, there is mixture of 'public' and 'private'. Inside your

home, you are in a private arena: you only allow other people in if they are invited, and once they do so they are expected to keep to your rules. Finally, there are secure and 'secret' places like bank vaults, where sensitive personal information is kept away from prying eyes.

Personal Knowledge Banks will contain all five levels of data: from data that is required to be public by law (such as census data), to data that is shared with some people (e.g. transaction data that is held by both the individual and the supplier), to private data that is the individual's to disclose.

Also, like a city, Personal Knowledge Banks will have their own districts or regions. London has its Chinatown in Soho, Harley street (for the medical profession), Hatton Gardens (jewellers), the City as a financial district, Leicester Square as an entertainment centre, Oxford Street as a focal point for shopping, and so on. Likewise Personal Knowledge Banks will have their own 'districts' which correspond to individuals' life 'departments' such as health, money, home, leisure, work, transport, communications, and so on.

Exactly how these departments will be connected remains a moot point. A natural starting point, perhaps, is for the emergence of many separate, specialist PKBs focusing on particular personal departments relating to say, health or personal finance. But there is so much potential overlap – and so much need for communication and connection between them – that single mega-PKBs may emerge. Or else different tiers of PKB may emerge with one level offering common 'platform' information and other levels, perhaps operated by separate specialists, adding detailed 'departmental' information.

Implementing PKBs

While PKBs are a good idea 'in theory' they raise an enormous number of questions, many of which are difficult to answer. The practical obstacles are huge. Here is a sample list:

- **Security** Individuals will be reluctant to build large personal databases, or let third parties access such databases, without absolute confidence that the data will not be compromised or accessed by unwelcome 'intruders'.

- **Permissions management** Central to the idea of the personal knowledge bank is the concept of tiered or conditional third party access to defined data fields. Specifying which data fields to make available to whom, when, and making them available (while not allowing any further 'prying') is a potentially complex and time-consuming task. It is also likely to compound individuals' security and privacy concerns.
- **Ease of use** Unless the service is simple and easy to use – i.e. easy to populate with data and easy to access – it will never reach take-off. But making the service simple and easy to use is a major challenge in its own right.
- **Data standards** If every individual built their personal knowledge bank their own way, data could not be shared efficiently with organisations. Common platforms and data standards are needed to facilitate sharing and use of personal data.
- **Data validation** How do those paying for or earning access to a Personal Knowledge Bank know that the data it contains is complete and accurate? For instance, how do I know that a vehicle's service record does not omit mention of a near-write off accident? How do we know that the persona that's being presented is not entirely misleading?
- **Data integration** Fully fledged Personal Knowledge Banks will rely on data feeds from a range of different sources and devices: online transactions, loyalty card data, personal organisers, personal video recorders, mobile phones etc. Enabling data to be transferred easily, efficiently and securely – while maintaining complete privacy – is another major challenge.
- **Privacy/data protection** It goes without saying that without 100% compliance with the letter and spirit of the law on these subjects, PKBs cannot work. This links closely with security (above).
- **Different types of value** While Personal Knowledge Banks will be good at collecting and managing explicit, codified personal data individuals also have many tacit, unarticulated needs. This points to new types of service which help individuals to identify and articulate their 'real' needs, and new 'co-creation' skills on the part of organisations. There is huge potential for improved innovation here, but also huge complexity.
- **Business models** Personal Knowledge Banks will cost money to build, maintain and use. Who will pay these costs, and how will they benefit? Where will

the main revenue streams come from? This is the subject of a separate white paper in its own right – suffice it to say that to flourish, Personal Knowledge Bank service providers will need to innovate not only on the fronts of marketing and IT, but in terms of business model too.

- **An agency mindset** With Personal Knowledge Banks the individual owns his own data and uses and manages this data for his own purposes: other organisations gain access to and use this data on the individual's terms. Personal Knowledge Bank service providers are agents of 'the consumer' rather than the seller. This mindset shift will be hard if not impossible for many would-be service providers to countenance even though it is a precondition for the success of the entire concept.
- **Trust** Without trust relating to all of the above, Personal Knowledge Banks will never get off the ground. Building such trust will take time, or PKBs will need to be hosted by an enterprise that already has sufficient trust.

A quick look at this list tells us that there are thousands of ways of getting Personal Knowledge Banks wrong and only a few ways of getting them right. Personal Knowledge Banks are not going to be an overnight success. Indeed, the daunting nature of these hurdles means that many potential providers will shy away from the challenge ⁶. However, as we've seen, many technical and market forces are now nudging us towards a situation where a more professional, individual-centric approach to the management and use of personal data becomes a reality.

So who is likely to take on such risks? Some entrepreneurs, for certain. But also many existing players (both commercial and governmental) for whom such a foothold offers significant opportunities to address pressing problems – and for whom acting as a key interface between individuals and organisations presents an attractive opportunity. Potential candidates include:

⁶ Personal Knowledge Banks therefore fall into the category of what innovation guru Clayton Christensen would call 'new market disruptions'. These are new markets creating new area of use or consumption, whose main existing competitor is 'non-consumption' (i.e. the fact that it's not currently happening), and whose main challenge is to 'invent the upward path' from initial foothold to full maturity. Such innovations usually start out 'clunky' – and because they are clunky they are initially dismissed as irrelevant by many customers and potential competitors alike. However, precisely because they have so many dimensions of potential improvement, once they gain a foothold they have tremendous opportunity for extremely rapid development. After an initial (and perhaps extended) period of incubation they suddenly 'burst upon the scene' to take everyone by surprise. Personal Knowledge Banks are likely to follow such a trajectory. See *The Innovator's Solution*, Harvard Business Press, 2003.

- ISPs, computer, software, and telecoms companies wanting to capitalise on existing relationships, technologies and interface services
- 'nodal' service companies whose core expertise lies in a particular consumer department such as health or personal financial management
- 'nodal' government departments (Personal Knowledge Banks could have created a potentially perfect 'fit' with the aforementioned UK Government plans to introduce identity cards, for example, had these plans taken a more enabling/entitling approach than the security-centric one currently being proposed.)
- marketing agencies that see 'the writing on the wall' for existing advertising, direct marketing and customer relationship models ⁷.
- businesses that already manage large volumes of personal data, e.g. major utilities, credit check agencies, customer data processors.

The big picture

Every economy has four basic buckets of economic activity: 'making' on the producer's side with its counterpart 'consuming'; and 'selling' on the producer's side with its counterpart of 'buying' by the consumer. Value is only generated when these counterparts match and connect: matching supply to demand and connecting buyers to sellers efficiently and effectively are key value-creating processes. They are also quintessentially information-intensive activities. It is all about acquiring and using the right information about supply, demand, what's being sold, who is buying etc, and using this information in the right way. These core information processes are in the midst of fundamental change.

Matching supply to demand. Historically, in information and knowledge management terms, producers created value by applying accumulated knowledge about raw materials, technologies and processes to make things. They then distributed information about what they had made to potential customers in order to organise and stimulate demand.

Today, for a host of reasons such as intensifying overcapacity and the ongoing IT revolution, the centre of information gravity is shifting. Increasingly, effective value creation starts with knowledge about the specific shape, nature and extent of

demand and then uses knowledge about technologies and process to adapt products and services accordingly. Of course, we've always needed elements of both, but their relative importance is shifting. Increasingly, the pivotal issue for firms is not so much knowing how to make stuff, but knowing what to make for who. Increasingly, in other words, they need rich, up-to-date accurate information *from* the source of demand – the consumer.

Connecting buyers and sellers. A hundred years ago 'the consumer' was an anonymous black hole, whose existence could only be inferred via indirect evidence such as products disappearing off retailers' shelves and being paid for: neither manufacturers nor retailers actually knew the individuals they were selling to. The infrastructure, edifice and processes of modern connecting processes (i.e. 'marketing') were constructed around an attempt to compensate for the effects of this black hole. In the absence of consumers saying 'here I am, this is what I want' marketers invented market research. In the absence of ongoing relationships between buyers and sellers, they invented advertising to make a connection.

Today, the original conditions that shaped this evolution are evaporating as it becomes increasingly easy and efficient for buyers to send messages to sellers saying 'here I am, this is what I want'. Personal Knowledge Banks are one mechanism by which such 'bottom-up' flows of information can be used to transform the crucially important processes of matching and connecting.

Summary and conclusion

Personal Knowledge Banks are a product of our time. They weren't possible even a decade ago. They are possible now – and they will become a reality over the coming decade.⁸ Personal Knowledge Banks address the information needs of individuals in 'an information age'. At the same time, however, they can help organisations transcend and overcome fundamental inherent limits in their ability to manage and use personal data in ways which really add value. They represent a 'win-win' way forward.

Specifically, Personal Knowledge Banks promise to provide individuals with extra value in the form of convenience, control and added value (either in the form of better

⁷ For a powerful critique of the flaws of existing models of customer relationship management models and an outline of the potential of some Personal Knowledge Bank-style customer managed interactions (CMI) see the paper Customer Managed Interactions by Richard T Watson *et al.* (See Note 2)

⁸ Significant initiatives in this area are planned by various BCCF members before the end of 2005.

prices for existing products, or access to products and services that better match their particular needs). At the same time, they will provide sellers with the opportunity to reduce go-to-market costs, gain greater insights into customer trends and behaviours closer to 'real time', and become far more responsive to these trends while rising to the challenge of privacy concerns and data protection legislation.

As Personal Knowledge Banks mature they will become ever richer as data sources and ever more sophisticated in terms of related services. No product or service development, customer relationship management, direct marketing, promotion, targeting and segmentation exercise, or market research initiative will be complete without some PKB input or validation. For many sellers, Personal Knowledge Banks will become one of their main channels to market. Those not using PKBs to interface with their customers will risk being marginalised.

The range of potential permutations and combinations of Personal Knowledge Bank services is huge. They represent a potentially huge new market which, over time, could grow to be much larger than today's markets for CRM systems or traditional direct marketing. Implementing Personal Knowledge Banks involves clearing many hurdles, but none of them are insurmountable.

Organisations that help place the power of personal data in the hands of individuals will be offering them a great and valued service – while potentially playing the pivotal role of 'interface manager' in a fast-changing commercial landscape.

Next steps

We believe Personal Knowledge Banks will help transform the worlds of marketing and information management with far-reaching effects on how organisations and individuals interact to create new value. But the concept also throws up many questions relating to best uses of technology, appropriate business models, modelling and managing user experiences and so on. Are you interested in exploring such questions with a group of like-minded people? If so, then contact us at the addresses below.

- Alan Mitchell (asmitchell@aol.com)
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About the Buyer Centric Commerce Forum

The BCCF (buyercentric.com) brings together individuals and organisations interested in exploring the potential and practice of 'buyer-centric' business models: businesses that earn their keep by helping individuals reach their personal, go-to-market and other goals.

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To find out how to join the Buyer Centric Commerce Forum:
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