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Contact centre technologies: Managing the flood of new technologies

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Abstract

Gartner recently noted that 'since 1997, a flood of IT technologies and trends has engulfed enterprises, impairing their ability to expand their capabilities'.¹ Looking ahead, they expect the flood to recede enough to give enterprises time to assess, realise and profit from the continuing promise of IT, which they term 'materialisation'.

Contact centres have not escaped the systems deluge, and managers may take some comfort from the prospect of an opportunity to 'materialise' potentially beneficial innovations. This paper reviews whether this is feasible, and if so how it can be accomplished. It begins with a review of recent IT innovations, highlighting the areas where innovation will have the most impact on contact centres. It will then consider the potential benefits of 'materialisation', and the obstacles to achieving it. Finally it will review current progress towards clearing these hurdles.

Keywords: innovation, vision, realisation, access, workflow, knowledge

Innovations

The flood of new technologies

Since the growth of call centres took off in the 1990s, businesses have faced the challenge of concurrent high-speed growth and change. In the contact centre environment the challenge of growth has often meant simply finding enough people and trying to equip them to deliver the 'outstanding' service experience which so many businesses tout as their competitive edge. This has generally happened against a background of increasing competitive pressure, resource constraints and rapidly changing customer expectations. The result has often been the inability of contact centres to meet sales and service targets within budget.

In this challenging environment, the flood of new technology has played a part in both improving and undermining the performance of the contact centre. One reason for this is the sheer complexity of the systems environment. Managing complex infrastructure presents a significant management challenge (Figure 1). This has been compounded by a lack of resources to integrate new technologies into existing IT infrastructures.

A second way in which innovation can undermine performance is the haphazard nature of new technology outcomes. Cusack² encapsulates the failed promise of new technologies perfectly: 'Typically new, expensive

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Figure 1: Contact centre technology overview

technologies are fobbed off as silver bullets to get companies to the cutting edge. This promise always fails.' To illustrate this the paper will consider some examples in three areas which have particularly impacted on contact centres:

- access technologies
- workflow technologies
- knowledge technologies.

From 'call centre' to 'contact centre' via new access technologies

Access technologies

If we regard the contact centre as a business unit providing customers with access to the enterprise, then the development of such centres closely follows the development of new access technologies. Most contact centres started life as call centres, offering services to customers over the phone, and often handling incoming post and other documents. The advent of 'new' channels — fax, e-mail, Internet, WAP etc — has created the 'multi-channel' contact centre environment. In truly 'customer-centric' businesses we would expect to see these centres providing easy access through multiple channels designed around customer preferences. In reality many contact centres were created to save money: by forcing customers to phone rather than visit their local branch (eg banks); by replacing local telephone enquiry services with consolidated national and global centres (eg airlines), etc. This lack of customer centricity has been partly to blame for haphazard outcomes of new channel technology implementations, especially when new developments are driven by business needs in isolation from the customer view.

Haphazard outcomes of new channel technologies

A fine example is the advent of 'interactive voice response' (IVR) technologies, which offer the potential to route customers quickly and accurately to the right person to meet their specific needs. In many contact centres the IVR is critical to maintaining performance, by managing call flows and minimising queuing, particularly for important customers. It can also, however, become a major hindrance to better service, and anyone who has come across one of those machines which have been programmed to handle every possible topic apart from the one you are calling about would be forgiven for believing so.

Another relatively recent access innovation is e-mail, which offers the potential for contact centres to 'smooth out' the peaks and troughs of inbound traffic by converting some of the voice contacts into e-mails to be answered at 'quiet times'. Again this has been both a success and a disaster, and the high level (over 50 per cent) of companies which fail completely to respond to inbound e-mails has become folklore. Even online services have problems answering e-mails, and Jupiter has identified that while a majority of their customers expect a response to e-mail enquiries within six hours, a third of companies take longer than three days or fail completely to respond.³

Workflow technologies

Contact centre performance is underpinned by how well workflow is managed. This is really at the core of any business operation, because it is

Implementing value-adding workflow for customers

work itself which can add value for customers. Whether it does or not depends primarily on whether the business is able to add value to give customers something they need enough to be prepared to pay for it. Effective workflow is therefore founded on understanding customer needs and designing business processes which meet those needs, providing value-added solutions.

Developments in workflow technology have focused on 'back-office' processes and systems in recent years, moving only recently into the 'front-office' arena where it often falls under the customer relationship management (CRM) umbrella. While there has been some innovation in this area it is limited, and a significant potential for innovation exists. Many currently available CRM systems are based on sales automation or 'helpdesk' systems which have simply extended their capabilities by adding new software components. Consequently many of these 'packaged' products are fundamentally flawed because they are not able to understand customer requirements and decide how to process them without significant human intervention.

Customer intelligence

Knowledge technologies

We use the term 'knowledge' in a very broad sense. One of the key activities of the contact centre is meeting customer needs. To do this effectively the business has to understand the customer, and developing 'customer intelligence' has been a particular focus of IT innovation.

Companies today are able to collect and store data on almost any aspect of customer transactions. This has been made possible by the advent of data-warehousing technology and the fast-reducing cost of storage. There are success stories, but many companies find themselves with vast quantities of customer data stored in inaccessible places and rarely available when they are really needed on the front line in the contact centre. The advent of data analysis tools is also helping to extract more value from these data warehouses. Where these work in concert with the new campaign management tools — user-friendly, fast, flexible and efficient — marketers are able to run and monitor multiple concurrent campaigns across all customer segments and channels. This presents the possibility of vastly increasing marketing efficiency and delivering the kind of 'one-to-one' marketing relationships which help businesses build a competitive market position.

One-to-one marketing to build competitive market position

Unfortunately much of the potential of the 'knowledge' innovations remains unfulfilled. Many marketers have the capability to run effective targeted campaigns at very short notice. Often these cannot be fulfilled because contact centres cannot cope with the communications needed to support such campaigns. Any marketer who has tried to ensure that hundreds or thousands of contact centre agents are properly briefed on the new product/service which they have spent months developing knows the frustration which results from this communication barrier. Equally, many contact centre agents face a daily barrage of customers enquiring about promotions of which they know nothing.

Unfulfilled marketing potential

Customer-centric business solutions

Summary

The reality of any new technology innovation is that it must be fully integrated into a customer-centric business, not only into a company's technical infrastructure, to be successful. If not then technical, resource, organisational and human constraints will quickly increase its chances of failure.

One reaction to the problem of integration from many companies has been simply to avoid offering a choice of channels. The 'e-business' revolution which relied on using the Internet to access an enterprise has quickly run out of steam. There have been successes, of course: Amazon.com has built a valuable business based primarily on the Internet channel. But many who invested in separate e-businesses are now trying to integrate their e-shop windows back into a more traditional 'clicks-and-mortar' model.

One final point of interest is that despite the proliferation of new channels (and the associated hype), voice remains predominant, with most contact centres handling more than 80 per cent of contacts over the phone. Daniels⁴ points out that despite increasing investment and falling costs of online touchpoints, service enquiries over the phone outnumber them eight to one. In addition phone-based support is still the most effective, although the 'universal agent' is still not the norm. For contact centres the message is clear — voice is king.

Voice is king in the contact centre

Trends

If Gartner is correct and the new technology flood subsides, the only prediction we can be confident about is that it will not cease. For an idea of where significant innovations may come from this paper will return to the three areas of particular interest for the contact centre:

- access
- workflow
- knowledge.

Access

Considering the propensity of consumers to use voice as their preferred channel it is not unreasonable to assume that this will remain predominant in the near future. It is therefore likely that related new technologies will have a significant impact. One of the more interesting of these is natural language processing (NLP). This is where computers can be programmed to understand not simply words but language, enabling them to understand customer requirements in the same way as a human does. Improving voice recognition and voice-to-text technologies combined with NLP makes it possible for the computer to replace the human in the contact centre.

This obviously has huge implications, from improving data protection through secure voice access to the creation of the 'virtual' customer service agent. Edify of the USA is one of those leading the charge in this area. Its 'deep linguistic processing' technology can already deliver 'intelligent' e-mail response applications. Daniels⁵ states that NLP

Natural language processing of voice interactions

applied to e-mail response systems is one way a business can catch up with customer expectations *and* save costs. He believes that most companies could answer the majority of simple service enquiries without the need for human intervention.

Business workflow to support business operations

Workflow

Because workflow is such a important feature of business operations this area is likely to remain a focus for IT innovation. It is also likely to produce more 'quick-win' business benefits, because many of the tools needed to implement improved workflows already exist. The main challenge to implementing effective workflows is designing business processes which support value-adding customer interactions.

Organisations which achieve this and build systems which enable them not only to maintain their processes but to adapt them quickly to meet changing customer needs are more likely to improve their competitive position.

Products such as Chordiant software are among those that have created the frameworks from which this type of solution can be developed. Once business processes have been designed they can be implemented across multiple channels. This ensures that customers are treated consistently irrespective of the channel used. In addition, the dynamic nature of the solution enables changes to customer profiles in real time as well as process activation according to customer profile, enabling 'one-to-one' CRM. The component-based design of such solutions is also critical in ensuring that changes to business process, rules and policies can be made quickly and easily across all channels, decreasing time to market for new products, services and targeted offers. The new breed of CRM solutions are far more flexible than many existing 'packaged' solutions which offer limited scope for customisation, and therefore for differentiation in how a company interacts with its customers.

Component-based solution design

Knowledge management and intelligent interaction

Knowledge

The need to understand and interact intelligently with customers will continue to drive the development of knowledge management (KM) technologies. This is of interest to the contact centre because of the potential to transform the mass of data and information available into usable knowledge, available in the right place at the right time. If the contact centre's role is to provide the customer with access to the enterprise, then KM tools will help customers find what they are looking for faster.

Contact centres are likely to continue to see potential benefits from the development of customer intelligence systems. In addition more radical solutions are beginning to appear, with SER's 'Brainware' technology one of the more interesting developments. This neural-network-based technology effectively classifies and retrieves information, not based on criteria predefined by human intervention, but on similarities to existing information across many thousands of dimensions. This technology has the potential to support truly 'intelligent' customer interactions.

Benefits from innovation will drive change

Materialisation

The author's assumption is that IT innovation will continue and that it can both benefit and hinder performance, largely dependent on how well innovations are integrated into the fabric of the business. The driver for change will continue to be the benefits which can accrue from innovations. For the contact centre these include service, sales and cost benefits.

Service benefits

- Ease of access: customers need easy access to the enterprise or they will take their business elsewhere.
- Consistency: customers need service consistent with their expectations of the brand or they will complain and churn.
- Exception handling: turning complainers into advocates. Research shows that complainers who are successfully recovered will be more valuable than non-complainers. Businesses need to manage service failures to their advantage.

Sales benefits

- Personalisation or mass customisation of products to meet the needs of customers more closely will help to build competitive market position.
- The ability to cross-sell products and services across customer segments and brands can significantly impact on profits because the cost of acquisition is low.
- Understanding customers can promote new opportunities by driving the development of valuable new products and services.

Cost benefits

- Despite spending ever-increasing sums on 'customer service', many companies see no discernible improvement in service standards. This means that either customers are impossible to please or money is being wasted, and companies need to target and track innovations.
- Meeting the peaks and troughs of demand is a continuing challenge for contact centres, and improved utilisation improves productivity.
- The high cost of recruiting, retaining and developing staff undermines the performance of many contact centre operations. In many cases it has forced businesses to move their contact centres further away — functionally and geographically — from the heart of the organisation. This makes it even more difficult to manage this critical front-line business function.

Obstacles to innovation will undermine change

Benefits and obstacles to materialisation

Technology can impact directly on many of the key drivers of improving service, sales and costs. There are, however, significant obstacles to realising the benefits of technology, and these can be categorised into three main areas.

- Vision: what is the right vision for the business and what innovations are needed to support it?
- Realisation: how will these innovations be implemented so that they support rather than thwart the vision?
- Metrics: why should we implement these innovations? What return on the investment will the innovations provide?

It is the author's belief that companies must overcome each of these hurdles in order to materialise the benefits of IT innovation (see Figure 2), and the remainder of this paper deals with some initiatives to achieve this.

Vision

Lack of vision is first obstacle to beneficial change

Every business has a vision, whether this is explicit or not. The vision answers the question: what value is the enterprise delivering and to whom? To be successful the contact centre must support the vision, delivering the interactions customers need in order to continue dealing with the enterprise. When the vision is lacking, contradictory or unclear, it undermines performance. The author believes that the lack of a clear vision is the first and most important obstacle to innovation.

Gartner⁶ has identified that successful enterprises are ones which know precisely what value they are delivering and to whom. In the context of managing customer relationships, Gartner recommends a simple four-point 'plan' for developing a vision which is properly 'customer centric'. This emphasises the importance of the proposition, the brand, the customer experience and the need for leadership to create and implement the vision.

Many management and specialist marketing consultancies offer tools and frameworks for developing an appropriate customer-centric vision for the enterprise. Often these can provide the basis for strategic planning, as well as a framework for integrating new technologies and innovations. It is also often the case that contact centre managers do not participate sufficiently in defining the vision for the company. This is unfortunate,

Figure 2: Materialisation for competitiveness

***i-Map*TM “vision”
building tool**

because the centre is one of the primary sources of customer intelligence in the organisation. In other cases the tools themselves are either not sufficiently customer centric, or fail to bridge the gap between ‘strategy’ and ‘implementation’. One tool which addresses these issues is the *i-Map*TM, developed by IACTIV.

The *i-Map*TM is a tool which aims to help an organisation develop an integrated customer experience vision by providing a framework for mapping the current customer management strategy to an ‘ideal’ customer experience vision. This provides the basis for identifying and prioritising strategic gaps, thus providing a strategic road map for realising the vision. The outputs neatly summarise what the business

Figure 3: The *i-Map*TM tool helps to create an integrated customer experience vision

***i-Map*TM helps to manage change**

needs to do to deliver the integrated customer experiences that build a competitive market position.

The nature of the map is that once it is created, it can be maintained easily by the leadership. This enables the company to manage a developing vision and strategy in the context of a fast-changing environment. Consequently the organisation can more easily manage the introduction of new technologies, by understanding their impact on the strategic programme.

Difficulty of realising innovation

Realisation

The second great obstacle to the successful introduction of new technologies and other innovations is the method by which they are implemented or 'realised'. When the introduction of an innovation complements the strategy to deliver the vision it will improve the chances of success. The converse will apply where the innovation does not complement, or even worse contradicts, the strategic programme. This requires organisations to understand the desired customer experience and the people and processes which will support its delivery.

Requirement for end-to-end methodologies

End-to-end methodologies are needed to undertake this business 'design' work, for which specifications can be developed for supporting systems. If the vision for the business is properly customer centric, the

Figure 4: *i-Method*TM — An 'end-to-end' methodology for realising customer-centric business systems

organisation will be able to identify and design the critical business processes needed to deliver the required customer experience. Only when this is done is the organisation in a position to consider what technologies might be deployed to realise the business process automation.

One of the implications for the contact centre is that technology decisions need to be taken only when a properly customer-centric vision has been developed, and the supporting organisational and business process design activities are completed. There are a number of 'end-to-end' methodologies available to support this approach, although a good deal of configuration may be required to ensure they meet the needs of the contact centre. An example of a methodology which has been configured specifically to develop CRM systems is the *i-Method*TM, developed by IACTIV (see Figure 4). This is a method based on the industry-leading 'Rational Unified Process', developed by Rational Software and configured for CRM solution design.

Success founded on appropriate measures

Metrics

The third and final hurdle to the 'materialisation' issue is that of metrics. This answers the question of why a new technology should be implemented by providing the return on investment information needed to make proper business decisions. The key point to understand is that the customer experience itself must be rooted in reality. If the vision is delivered, how many customers will spend how much money? This approach demands effective metrics at every stage to validate that the vision and its strategic programme are viable. The Database Group 2001 survey of the top 1,000 UK companies found that their inability to obtain measurable results attributable to their CRM systems was the most likely cause of 'CRM failures'.⁷

For the contact centre it is a continuing challenge to find metrics which measure value-adding activity. Traditionally the dichotomy has been 'sales' or 'service', at worst measured by crude 'revenue per day' or 'calls per day' metrics. It is critical that contact centres are measured on their customer value-adding activities, directly related to the implementation of the vision. Often the 'outsourcing' of contact centres exacerbates the issue of metrics by focusing on cost reduction targets rather than customer value-adding measures.

Conclusion

This paper has reviewed a few aspects of the issues surrounding new technologies in the contact centre environment which the author believes are significant.

It has noted that the recent flood of innovations has both helped and hindered contact centres. It has also noted that these innovations will continue, and has highlighted three areas — access, workflow and knowledge — where innovations are more likely to impact on the contact centre significantly.

When it comes to the benefits of these innovations, the paper has briefly considered some of these before highlighting the main obstacles to 'materialisation': vision, realisation and metrics.

Finally it has considered how these three obstacles can be overcome, and outlined specific new integrated approaches to achieve this.

References

1. Linden, A. and Fenn, J. (2001) 'Emerging trends 2002 to 2007: Fulfilling expectations', Gartner, 20 December.
2. Cusack, M. (2001) *CRM Primer*, CRMGuru.com.
3. Bankier, J. (2001) 'E-mail customer service', Vision Report, Jupiter Research Centre, 31 August.
4. Daniels, D. (2001) 'Empowering the contact centre', Vision Report, Jupiter Research Centre, 20 December.
5. *Ibid.*
6. Kirkby, J. (2001) 'Creating a CRM vision', Gartner, 13 December.
7. Database Group (2001) www.databasegroup.co.uk.