

**Continuous performance
improvement: a case study of ICT in
UK local government**

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Abstract

ICT in local government is increasingly being seen as central to the delivery of local services. Recent performance management initiatives from central government have also placed a sharper emphasis on the more effective and efficient delivery of services often through the more intelligent use of ICT. The research described here has been undertaken in almost 200 local authorities in the UK and is based on questionnaire interviews with over 60,000 ICT users in UK local government. The paper describes the research process that has been developed and also describes very briefly some of the analysis that has been undertaken. The research approach makes use of 'gap analysis' to develop an understanding of the priorities for ICT improvement in local authorities. The fact that research has been carried out in a wide range of councils has also allowed highly detailed performance benchmarking to be undertaken. A number of councils have embedded the approach described here into their continuous improvement plans and into their contract compliance mechanisms. The way that the research has been used to support these management processes is also described.

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Continuous performance improvement: a case study of ICT in UK local government

Introduction

In the last two decades, value for money, economy, efficiency, benchmarking and performance improvement have assumed considerable prominence in local government. The rapid growth of interest in performance management has led to the much clearer definition of service standards and to the setting of much clearer performance measures across most service areas. These developments have been given an added edge by being associated with market testing, compulsory competitive tendering, best value, privatisation and outsourcing initiatives where local authorities have been exhorted to reduce the costs of services while simultaneously improving service quality and effectiveness (Goss *et al.*, 1993). Local authorities collectively spent £1.977 billion on ICT in 2002 (SOCITM, 2002) and that this had almost doubled since 1996 (SOCITM, 1996) indicates the scale of local government ICT across the UK: it is a huge business that is increasingly becoming central to the delivery of services. The fact that central government has consistently applied pressure to local government to increase the proportion of services delivered electronically (Raynsford & Beecham, 2002) means that there is considerable pressure to develop robust and workable frameworks, helping managers to improve service quality and simultaneously helping to improve both service effectiveness and efficiency or value for money.

Consequently, central government demands on local government to increase the proportion of services being delivered electronically, the emergence of more formalised client-contractor relationships, implicit and explicit threats of privatisation, and, outsourcing and the exigencies of inspection regimes such as Comprehensive Performance Assessment (CPA), mean that local authorities have had more systematically to evaluate and manage the performance of their ICT function.

The majority of local authority ICT units in the UK are members of an organisation called the Society of Information Technology Management (SOCITM). SOCITM is a subscription organisation that exists to provide support to local government ICT units. The benchmarking and performance analysis framework described in this chapter has been jointly developed by the Management Research Centre at the University of Wolverhampton Business School and SOCITM, and has become the benchmarking standard for local government ICT units.

The academic perspective on performance management in ICT

Research has shown that the current approaches to managing ICT generally - and not only in local government - have not always produced satisfactory results (Bannister *et al.*, 2001; Worrall, 1995). Specifically: computer systems take too long to develop, users often voice their dissatisfaction with the quality and timeliness of support they receive; systems often run over budget (Allingham & O'Connor, 1992; Willcocks & Lester, 1993; Banker & Kemerer 1992; Remenyi & Money, 1991); are frequently perceived not to deliver the benefits on which they were originally business-justified (Attewell, 1993; Brynjolfsson, 1993; Wilson, 1993; Peters, 1988; Parker, 1989; Hitt & Brynjolfsson 1994; Remenyi *et al.* 1995; 1997); and, are often seen not to meet the managerial or operational needs of users (Worrall, 2004). These issues are not new and they have been a central challenge for ICT management and the management of user-oriented ICT services for the past thirty years. However, despite being known for thirty years they continue to be a major problem in many organisations today.

The purpose of the approach we have developed is to establish a greater understanding of what determines users' views of service quality and service delivery effectiveness, in order to provide ICT managers with the necessary evidence and guidance that will help them continually improve the

performance of the ICT function they manage. Our work is a case study in evidence-based management.

Methodology and framework

The framework we have developed has formed the basis of a seven-year research programme in which we have collected data from over 60,000 ICT users in almost 200 local authorities. While around 200 different councils have used our performance assessment approach, a large proportion of these have been through the process more than once; many beginning to use our approach to measuring change longitudinally as part of their continuous improvement strategies. Other councils have formally integrated some of the measures we have developed into their contract compliance protocols, where ICT services have been outsourced or are subject to strongly codified internal service-level agreements. The framework is questionnaire-based and now almost exclusively delivered over the Internet. It has been continually modified based on regular feedback sessions with participating councils to reflect emerging issues as they affect ICT delivery in local government and the changing needs of ICT managers.

The framework uses an array of techniques, first, to develop a better understanding of the factors that determine whether an ICT unit is well managed (or not) and, second, to give guidance to ICT managers about how to improve service delivery to their users. The underpinning technique is 'gap analysis' (Parasuraman *et al.*, 1985), where users are asked to indicate how important they consider each of eighteen aspects of ICT service delivery are, and how satisfied they are with each of the measures (both on a seven point scale). By subtracting their importance score per measure from their satisfaction score per measure, we are then able to calculate a raw 'gap score' for each user on each item. In order to focus on those issues that the users consider to be highly important we have developed what we term a weighted gap score, in which we multiply each user's raw gap score on each item by their importance score per item (for a full description of the methods please see: Worrall *et al.*; Worrall 2004; 2005). In addition to our eighteen item gap analysis questions we also ask an additional set of questions to assess: inter alia; type of user (for example, operational users, tactical managers, strategic managers and councillors are identified separately as are low intensity and high intensity users); user capability; overall satisfaction; user training and user participation; and, involvement in service planning and management. In addition to the survey of users a range of descriptors and data is collected on the ICT unit and local authority, in order to set the analysis of users into context (for example: the number of employees in the ICT unit; size of the ICT budget; and, the type of local authority). Some participants also request that the analysis for their council is disaggregated by department, enabling them to analyse the extent to which issues are the same or differ across the organisation.

The survey is carried out in series - some involving over 20 local authorities - with the objective of collecting data from a random sample of users drawn from each council. Consequently, the logistics of the exercise have become somewhat sophisticated over the years. Despite this growing sophistication, the nature of the exercise does place some constraints on the methodological and analytical rigour we can achieve. For example, while some councils have proved to be very intelligent users of the research outputs, others clearly struggle to make sense of the large volume of information produced from the survey. Our objectives have therefore moved increasingly towards informing users how to use the survey results, rather than going through survey results with them. While we have room to improve in this area, the feedback workshops we run with participating councils do help users make sense of the data generated for them. As one might expect, some councils make far better use of our research than others: our challenge therefore is to develop an effective communications strategy that helps the less capable users of our research to apply our findings and improve service delivery to their users.

The outputs produced

The results we produce for councils are at three levels. First, we produce a comprehensive set of tabulations that provide an in depth analysis of the individual ICT unit; second, we provide comparative benchmarking analysis to allow councils to see how they have performed in relation to other councils; and third, for those councils that have been through the process more than once, we provide a detailed analysis of change which ICT managers can use to assess the effectiveness of their improvement strategies.

Intra-organisational analysis

At the intra-organisational level, we analyse user capability, overall satisfaction, users' experiences with training by type of user and we also conduct in-depth analysis by department when requested. Perhaps most importantly from an ICT management perspective, we produce what we term a 'priority matrix' that identifies where weighted gap scores (which we term 'performance deficits') are greatest. We augment this analysis by producing a 'key driver analysis' that reveals, for each council, which of the measures used in the questionnaire account for most of the variation in the ICT unit's overall satisfaction score: here we identify the aspects of service delivery which we consider will have the largest potential leverage effect on improving a council's overall satisfaction score.

An example of the 'performance deficit analysis' we produce is shown as Figure 1. Here we indicate what the council's overall performance deficit profile looks like and how this varies for different types of user (operational users, tactical managers, strategic managers and councillors).

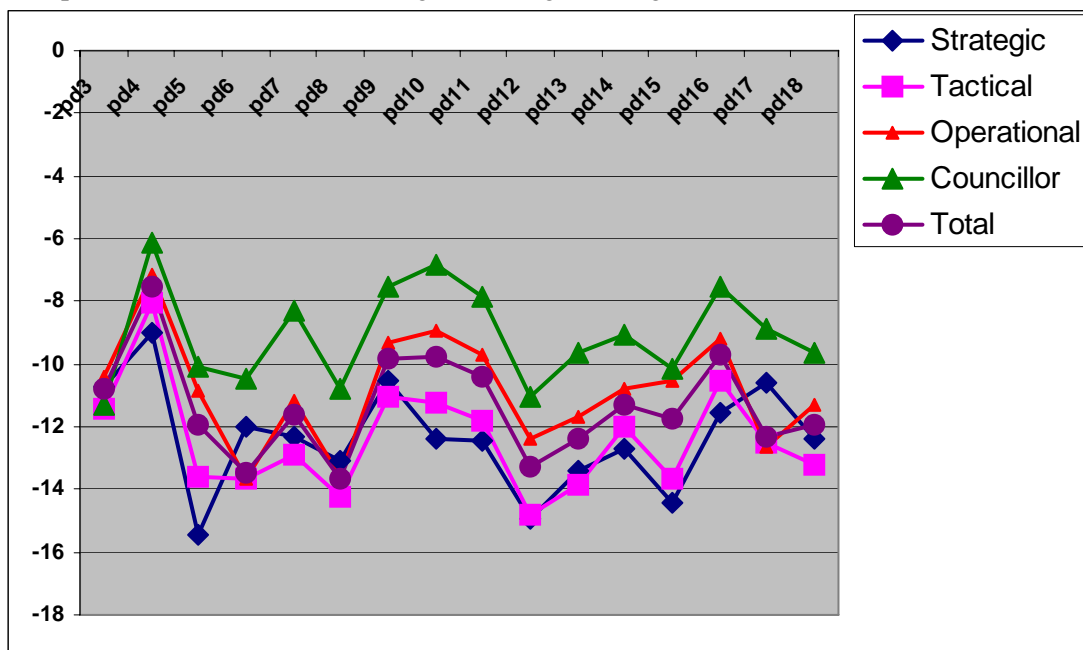


Figure 1. Performance deficit profiles by user type

Key to performance deficit measures:

- pd1 Those who use and support ICT should have a good working relationship
- pd2 There should be a strong political and senior management commitment to ICT in your organisation
- pd3 There should be a low percentage of downtime
- pd4 ICT support staff should have a high level of technical competence
- pd5 Those who provide the ICT service should be responsive to changing user needs
- pd6 Proper training should be provided to increase the ICT knowledge and skills base of users
- pd7 ICT support staff should respond quickly to remedy users' problems
- pd8 There should be a high level of user participation in the planning of new systems & developments
- pd9 ICT support staff should be easy to contact when they are needed by the user
- pd10 ICT support staff should understand the users' business
- pd11 Good communication channels should exist between those who support and those who use ICT
- pd12 Clear resource plans should exist for new systems and new developments
- pd13 ICT staff should process requests for changes to existing systems promptly
- pd14 There should be short lead times for the development of new systems
- pd15 The ICT unit's performance in delivering services to users should be effectively monitored
- pd16 ICT staff should be able to diagnose problems accurately
- pd17 The hardware and software we use should be up to date
- pd18 Senior IT management should provide visionary leadership in the exploitation of technology

Figure 1 reveals that different types of ICT user yield different 'performance deficit profiles' and that the average profile for the council as a whole, while it does give an assessment of where the key

performance deficits are located, does disguise some significant differences by type of user. Generally, we can see that councillors and operational users have the lowest performance deficits, while tactical and strategic managers almost invariably yield the lowest scores (as manifest by the largest performance deficits). Given that it is tactical and strategic managers who tend to make budget allocation decisions and decisions about whether to outsource or not, it is important that ICT managers are aware of these differences by type of user. Then, they can develop performance improvement strategies that focus on the priorities of different groups, and, resonate with the issues that different types of user have identified. We continually point out to councils that a 'one-size-fits-all' approach to performance improvement is unlikely to yield long term results.

Where councils have subscribed to undertaking a departmental analysis we produce a similar form of analysis as contained Figure 1, but by department. During this seven-year research programme we have identified some massive differences in performance profiles by department, indicating the existence of significant differences in perceived service quality within councils. These within-council differences can often be explained by differences in user capability between departments, the uneven resourcing of ICT within organisations, or, differences in the perceived effectiveness of ICT management, and particularly support staff, within councils. Having identified these intra-council differences the data set allows us, using key driver analysis, to give ICT managers some insight into why these disparities have occurred, and consequently, what can be done to try to reduce them thus leveraging upwards the council's overall satisfaction score. Indeed, most ICT managers take a great interest in their overall satisfaction score as this is seen as the crucial 'one number measure' which defines their overall performance. Improving the overall satisfaction score has been included as a target in many service level agreements and outsourcing contracts following our programme of work.

The prime purpose of providing ICT managers with detailed information about users' views of service provision is to give them a base of evidence to help them develop well targeted service improvement strategies, based on a segmented and differentiated view of their user base. Given the scope of this paper it has only been possible to give a very brief indication of the volume of evidence that is provided. A set of standard tabulations has been developed that looks at a wide range of issues affecting the delivery of the ICT service including: user training; user views about training effectiveness; assessments of the effect of communications strategies; views about the involvement and participation of users in the systems development process; perspectives on system reliability and resilience and an analysis of the extent to which ICT has been embedded into the organisation's culture; management processes; and, service delivery processes. All these factors have a significant impact on users' overall satisfaction assessments.

Benchmarking against other councils

While it is our view that the prime use of the research should be to assist ICT managers to develop a well-focused service improvement strategy, most ICT managers tend to be most interested in how their ICT units are performing relative to other, similar councils. Perhaps this reflects the benchmarking bandwagon that seems to pervade much management consciousness in contemporary local government. Given the size of our database we are able to benchmark individual local authorities against similar types of council (e.g. London Boroughs or County Councils) and we can also compare councils against bespoke sets of comparator organisations: for example, one large city wanted to be compared against other large UK cities and one 'county town' wanted to be compared against other 'county towns' of a similar size and function. The fact that we have around 200 councils in our data set gives us considerable flexibility in being able to conduct benchmarking assessments for individual councils. Examples of the benchmarking outputs we produce are contained in Figures 2 and 3.

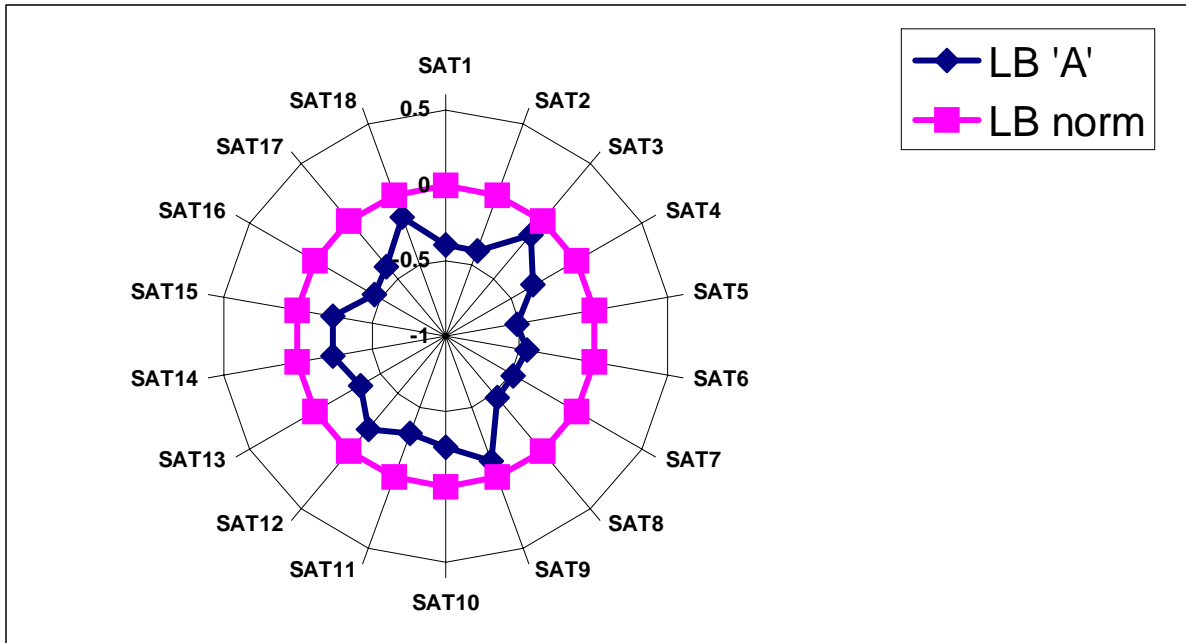


Figure 2. A comparison of London Borough 'A' against the norm for London Boroughs

The radar chart shown as Figure 2 compares the performance of London Borough 'A' against the means scores for all London Boroughs on each of our 18 measures of ICT unit performance. For the purposes of Figure 2, the means of all the measures have been set to zero. The figure clearly shows that London Borough 'A' performs below the norm on all our 18 satisfaction measures.

Figure 3, however, compares London Borough 'A' against the best and worst scores for all the London Boroughs we have analysed. This allows ICT management at London Borough 'A' to see how their council is located in the 'performance space' demarcated by the upper and lower performance boundaries. We have found these simple graphic techniques to be very powerful in conveying a clear message to service managers working in local government.

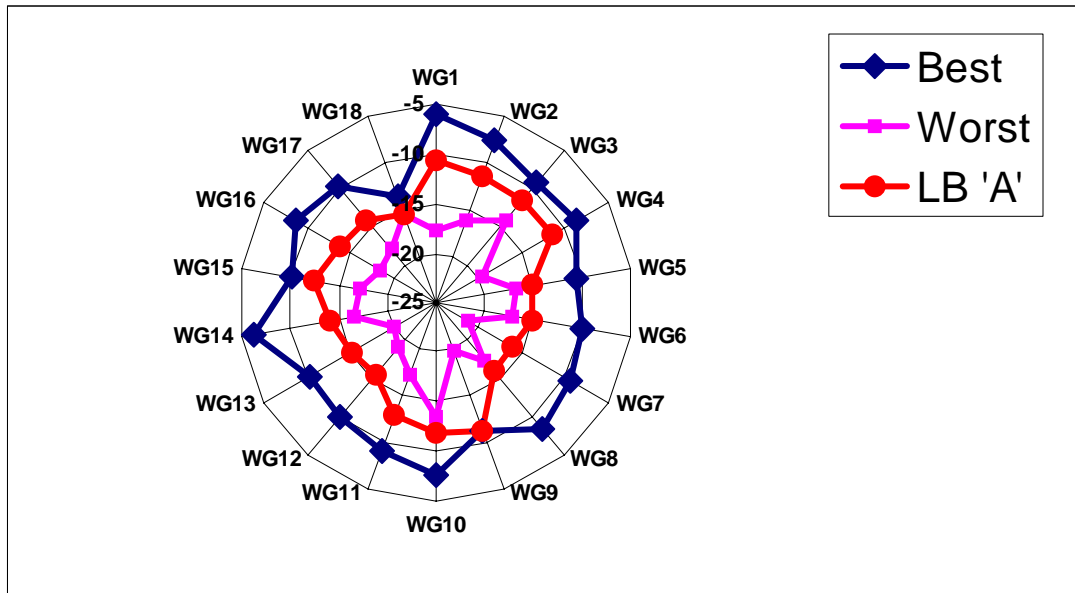


Figure 3. A comparison of London Borough 'A' against the 'best-in-class' and 'worst-in-class' scores for London Boroughs

The analysis of change

Several local authorities have used the approach we have developed continuously to monitor and review change. Of the councils that have been through the process more than once, 70% have

recorded some improvement on their overall satisfaction score with over 40% of improving councils having recorded an improvement of over 5%. Where councils have gone through the process more than once, we have produced analyses of how their performance profiles have changed in order to allow ICT managers to assess the impact of their improvement plans. An analysis of how the performance signature of a unitary council has improved over time is shown in Figure 4.

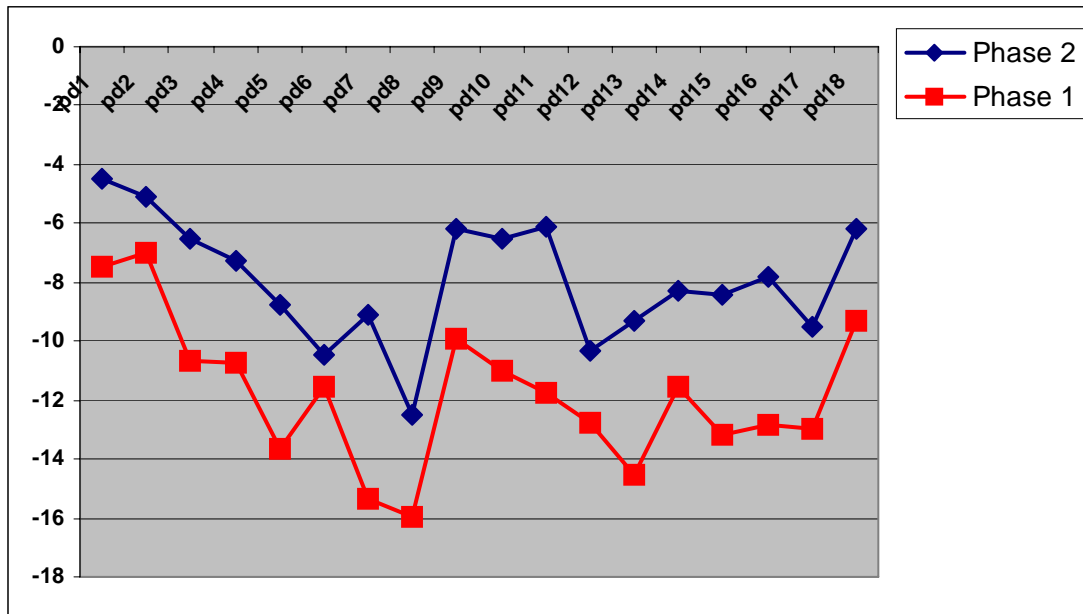


Figure 4. Performance signatures of a local authority: improvement over time

While not all councils have shown an improvement over time, we can report that the majority of councils that have engaged with our performance assessment model and our support in developing improvement strategies have sustained some improvement. In some cases the improvement has been considerable, with the best percentage performance improvement in overall satisfaction being over 25%. Interestingly, two councils that have undergone major outsourcing have recently recorded considerable deteriorations in overall satisfaction (of 32% & 22%). Our research into the effect of outsourcing on user assessments of service quality is continuing, but our early findings indicate that users' sense of value for money and a sense of deteriorating working relationships seem to characterise the effect of outsourcing.

A reflection on the research process

Within the limitations of this paper, it has not been possible to do justice to the richness of data and the richness of analysis that we have conducted over the last seven years. However, our academically grounded approach has yielded high quality evidence with which we have been able to assist ICT managers in developing targeted service improvement strategies. Those councils that have engaged with our analysis have spent time in making sense of the evidence we have provided. They have consulted widely with their users by sharing the information we have provided and generally sustained a considerable improvement in their performance profiles. Where councils have simply gone through the process for political reasons but have not made use of the data, performance profiles have usually deteriorated simply because users' expectations have been raised by the process of asking them for their views.

The research team make detailed presentations of the research findings to participating councils at the end of every research series. The feedback is invariably used to inform the future development of the research process, both in terms of the design of the questionnaire, and in the design of output formats that users can readily understand and make use of.

The changing environment of local government ensures that new issues are always emerging, particularly in the field of ICT. Therefore our research is continually evolving to allow us to analyse

policy relevant issues. These include issues such as the effect of outsourcing on users and the effect of the development of new forms of technology supported service delivery. The research programme has also brought to the surface issues that were having a major impact upon the delivery of the ICT function in many councils. For the first time many local authority ICT managers have been made aware of the effect of: poor communications with users; a low level of user engagement and involvement in the systems development process; poor volumes of training; and, user training that was considered to be ineffective on users' overall satisfaction ratings. Perhaps, more important, they have been made aware that strategic managers in the council have often had the most negative views of the ICT function, and that there have been massive disparities in how the ICT function was viewed within different departments.

The diagnostic potential of our database is considerable and we are able to undertake bespoke analysis for those councils that have the ability to ask difficult questions, and who are prepared to respond to the answers they received. At times the work has proved politically and personally challenging as many senior ICT managers in large councils have been presented with feedback they have regarded as unpalatable and politically sensitive. In some instances, staffing changes have resulted from the delivery of our analysis.

The research project has clearly demonstrated the value of applied management research by bringing the research and analytical skills of academia into close contact with real live business problems, in this case local government. Hopefully, academia has enriched practice, and practice has also provided an arena where academia can demonstrate its usefulness to performance management and service improvement.

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