Field Service in the UK Construction industry

A research report following a survey of *Construction News* readers by eBECS and Microsoft

eBECS
Total Microsoft Business Solutions
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Microsoft

Foreword

Microsoft and eBECS understand very well the challenges the construction industry faces.

However, to learn more about attitudes towards technology in the sector, particularly in the area of field service, we surveyed *Construction News* readers.

We present the findings and commentary over the following pages and would like to express our thanks, once again, to those construction industry professionals who took part in this survey.

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Executive summary

Supported by digitisation technologies such as Building Information Modelling, the UK's construction sector is being called upon to deliver a transformation in the cost and lead time associated with the projects on which it works.

Yet the reality on the ground is very different, with the sector being criticised as a 'technology laggard', particularly in respect of client-facing site visits and field service.

A survey of *Construction News* readers, carried out by eBECS and Microsoft, probed the attitudes of construction firms towards technology investments in such activities. What technologies does the sector deploy, and to what uses are they put?

Three key findings emerged:

- Firms within the construction sector place a high degree of importance on field service activities, and that importance is set to increase, going forward.
- Despite this importance, field service activities are presently supported by low-tech solutions and niche specialist third-party systems, each posing integration issues with respect to back office systems and other client-facing systems. There is only limited adoption of Enterprise Resource Planning and Customer Relationship Management systems, for instance, and little corporate-grade uptake of Cloud solutions beyond simple document-sharing services.
- That said, there is clear evidence that construction firms can see the benefits of corporate-grade solutions for field service activities, with significant numbers of respondents affirming the value of capabilities such as service call scheduling and optimisation, route planning and optimisation, and dashboard-based KPIs of business-critical performance measures. Most encouraging of all, a mobile technology foundation on which to build already exists at many construction firms, in the form of smartphone and tablet computer use for site visit data recording.

Introduction

The global construction market is forecast to grow by over 70% by 2025, and a joint UK government-construction industry strategy for the sector, *Construction 2025,* calls for the UK's construction industry to increase its share of this market.

How? By creating a construction industry that is efficient and technologically advanced, with a skilled and capable workforce, and which leads the world in sustainable low-carbon and 'green' construction capabilities.

And the targets are ambitious, with the *Construction 2025* strategy envisioning the industry achieving a 33% reduction in the initial cost of construction and the whole life cost of built assets; a 50% reduction in the overall time, from inception to completion, that it takes to construct or refurbish buildings; and a 50% reduction in greenhouse gas emissions in the built environment.

Key to this: new, technology-led capabilities such as Building Information Modelling (BIM), through which digital designs and models create an end-to-end means of sharing design and construction information across the industry and its supply chain, all the way from initial design to post-handover maintenance.

And yet surveys and industry body analyses consistently ring alarm bells. Far from being on course for a BIM-capable construction industry capable of delivering on *Construction 2025*, the industry is instead charged with being a technology laggard, lacking even the basic technology underpinning that sectors such as manufacturing industry and professional service firms take for granted.

And the technology gap is especially wide, goes the argument, when construction firms' employees leave their offices and instead go on-site, either to engage in actual construction, or – more particularly – carry out field service activities.

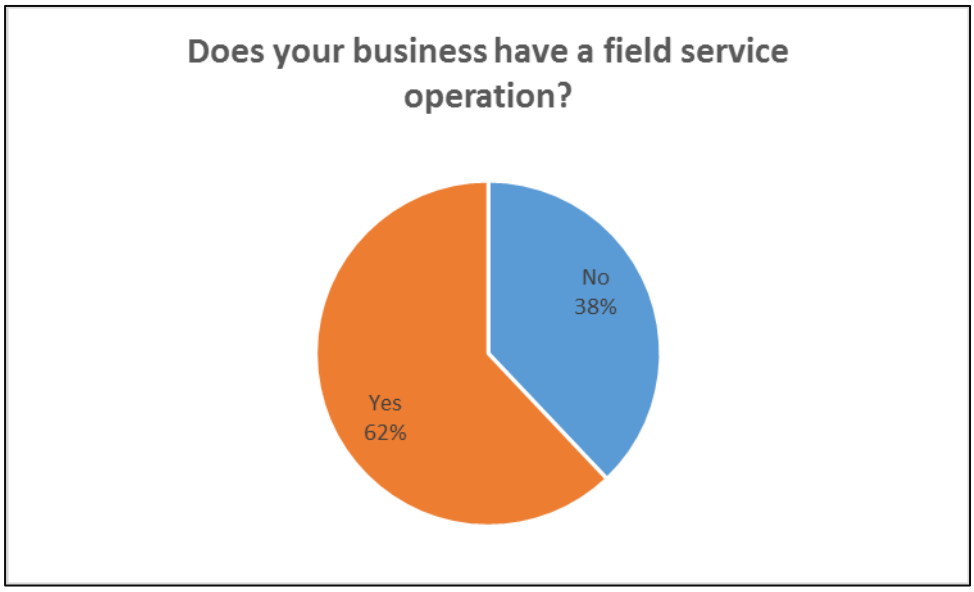
The present survey by eBECS and Microsoft is an attempt to shine a spotlight onto this supposed technology gap, asking construction industry practitioners probing questions as to the technologies that their firms deploy, and the uses to which these technologies are put.

Mobile technology, Enterprise Resource Planning technology, Cloud technology, Customer Relationship Management technology – just how extant are these basic building blocks, especially in customer-facing activities such as field service, in the form of site visits and maintenance? Put another way, where are the opportunities to close the industry's supposed technology gap, and how rewarding might those opportunities be?

Field service matters

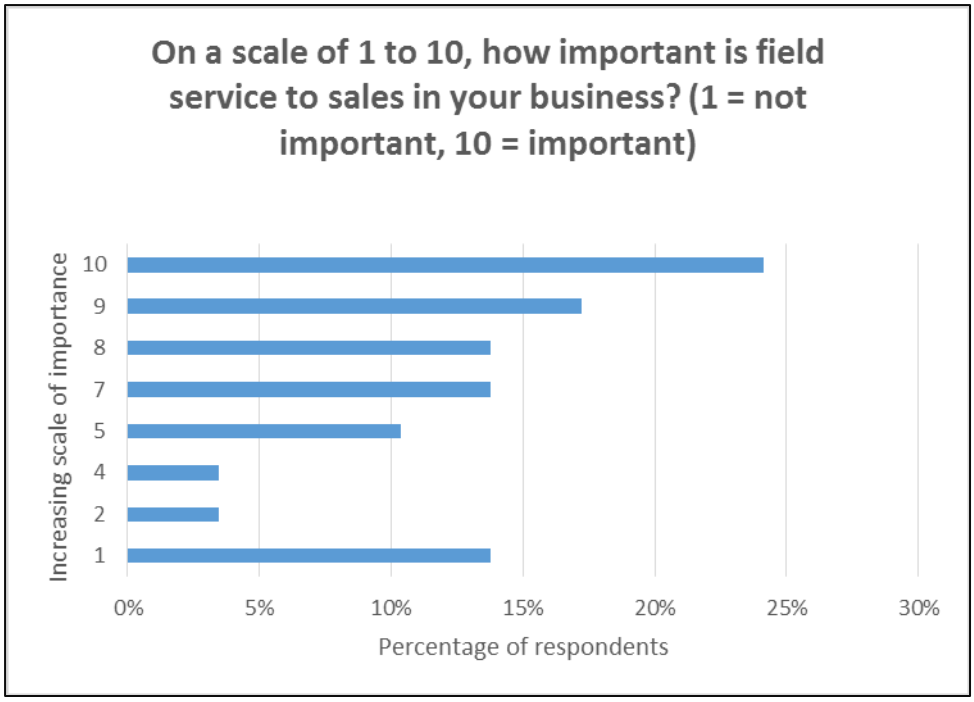
So how important *is* field service to construction firms? One way of assessing this is by determining whether construction firms actually possess a field service function.

Straightaway, we can see that roughly two-thirds of respondents (62%) do indeed possess field service operations, with just 38% not having a field service dimension to their operations.

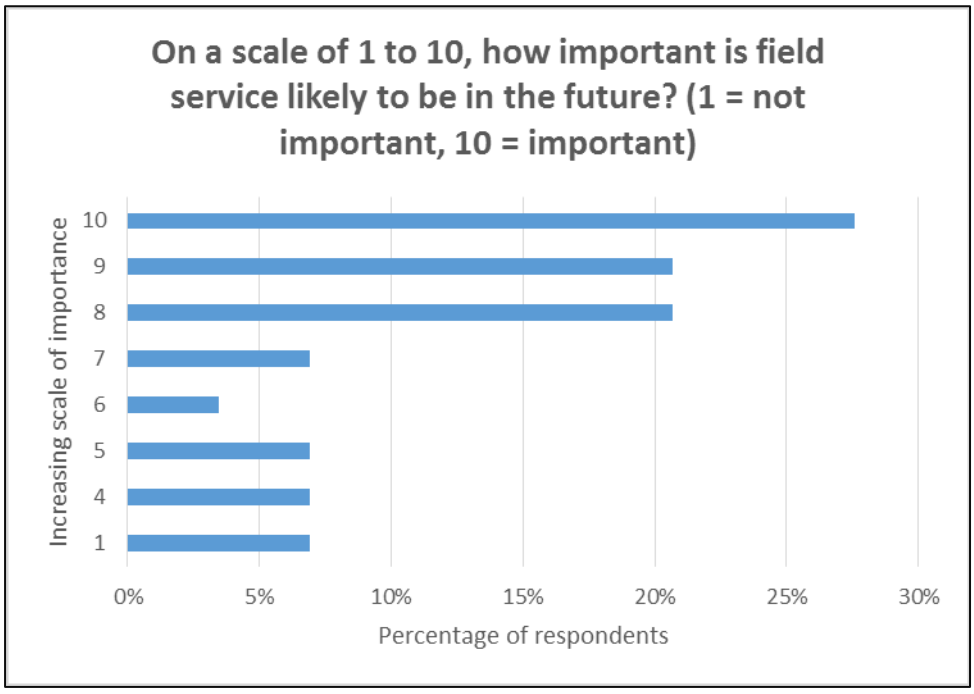


That said, the mere possesion of a field service operation isn't neccesarily the same as an acknowledgement of the importance of the function to the business. So respondents were asked the question directly: on a scale of 1 to 10, how important is field service to your business?

Almost a quarter of respondents – 24% – attached the highest level of importance to field service operations, with a further 17% scoring the importance of field service as '9', and 14% as '8'. Put another way, over half of all respondents – 55% – placed field service operations in the highest three deciles of commercial importance to their business.



Moreover, that importance was set to increase, going forward. For when asked how important was field service likely to be to their business in future, an even higher proportion of respondents – 70% – placed field service in the top three deciles, with 28% of respondents attaching the very highest level of importance to field service operations.



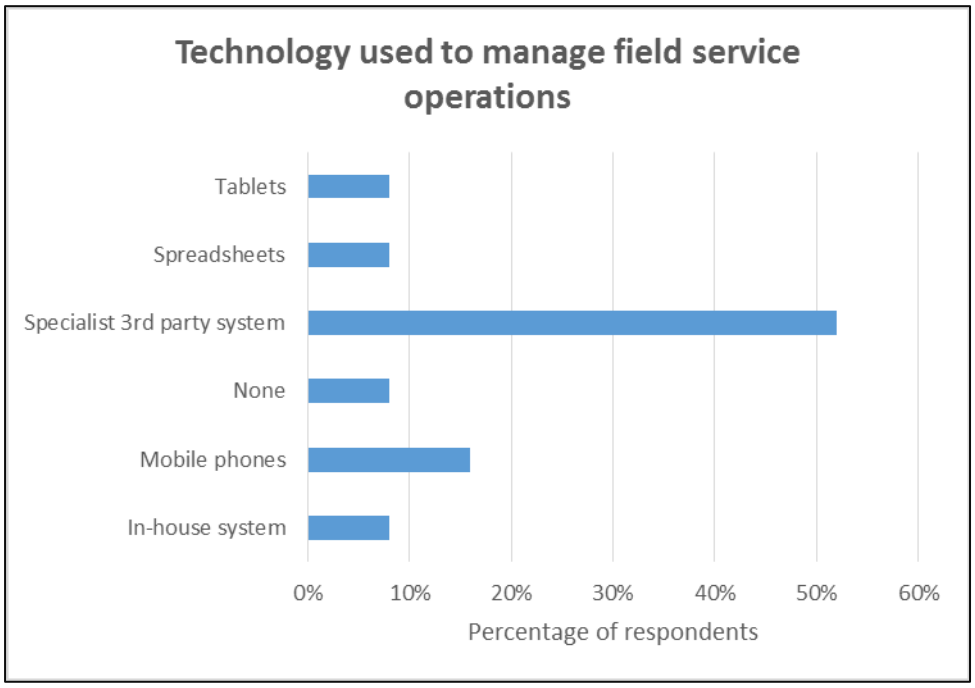
Finally, it must be borne in mind that of the respondents attaching a low importance to field service operations, many did not actually possess such operations.

So the overall inference is clear: of those construction firms that *do* possess field service operations, the vast majority attach a very significant commercial importance to those operations – both now, and going forward.

Technology maturity

Given this importance, what technology underpins these field service operations? The answer, in the majority of instances – 52% – is specialist third-party systems, with small numbers of respondents relying on lower-tech solutions such as spreadsheets and mobile phones.

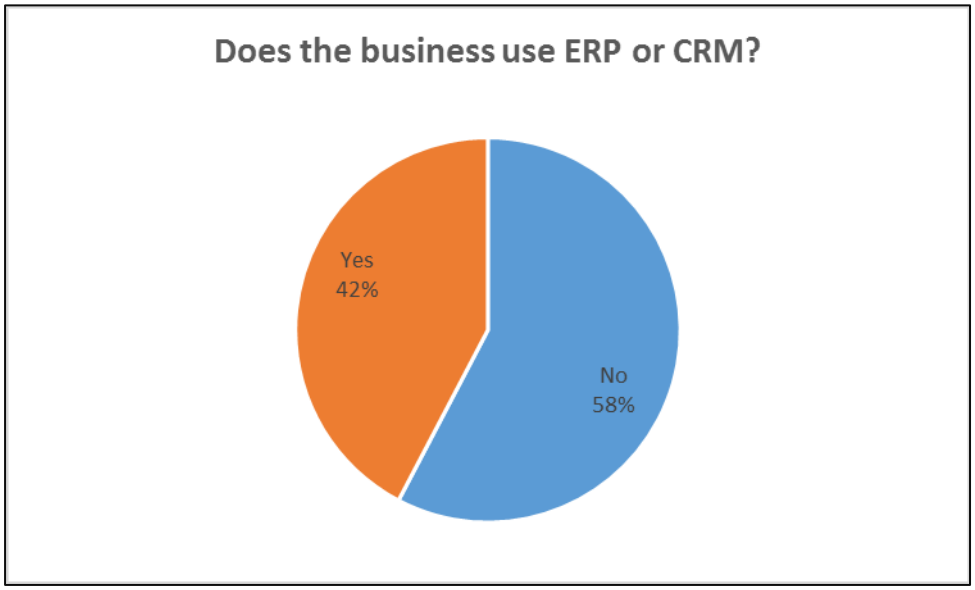
But that said, it may be a mistake to imagine that these specialist third-party systems were fully feature-compatible with the kinds of field service management systems typically associated with aftersales field service maintenance in industries such as manufacturing, white goods, and facilities management.



Whereas these latter systems are rich in capabilities such as service call logging and management, service call scheduling and optimisation, route planning and optimisation, document management, and preventative maintenance scheduling, the specific specialist third-party systems reported by construction respondents generally fell into two categories.

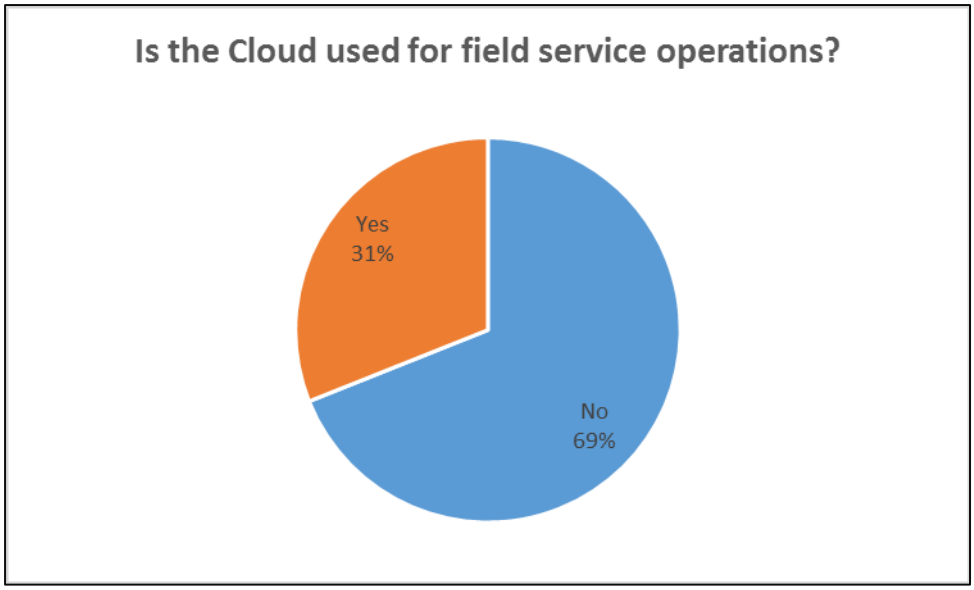
On the one hand, some respondents reported using systems such as Wunderlist and SnagR – job and task logging tools useful for site-specific task recording and prioritisation, but needing integration to back office systems via custom APIs. Alternatively, respondents relied on systems that were technically-focused in nature – BIMXtra, STRUMIS and Asta Powerproject, for instance – but where field service and site operations were not the systems' primary focus.

Put another way, there was little evidence that respondents were making extensive use of mature field service management systems that could leverage existing back office investments in Enterprise Resource Planning or Customer Relationship Management– and indeed, it turned out that within the majority of the construction firms in the survey, neither CRM nor ERP was in place, with just 42% of respondents reporting that their organisations used either ERP or CRM.



Finally, the assessment of construction firms' technology maturity probed the extent to which respondents' organisations made use of the Cloud for field service.

Again, uptake was low, with less than one-third of respondents – 31% – reporting that Cloud-based technology was in use to support field service activities.



Moreover, as with the use of specialist third-party field service systems, the specifics of just *how* the Cloud was used was almost as informative as *whether* it was used.

For while a small proportion of respondents reported the use of mature and technologically-advanced Cloud-based systems from Salesforce and Oracle, the most popular form of cloud exploitation was in the form of file-sharing and remote document access, in the form of services such as Dropbox, OneDrive, and Google Drive.

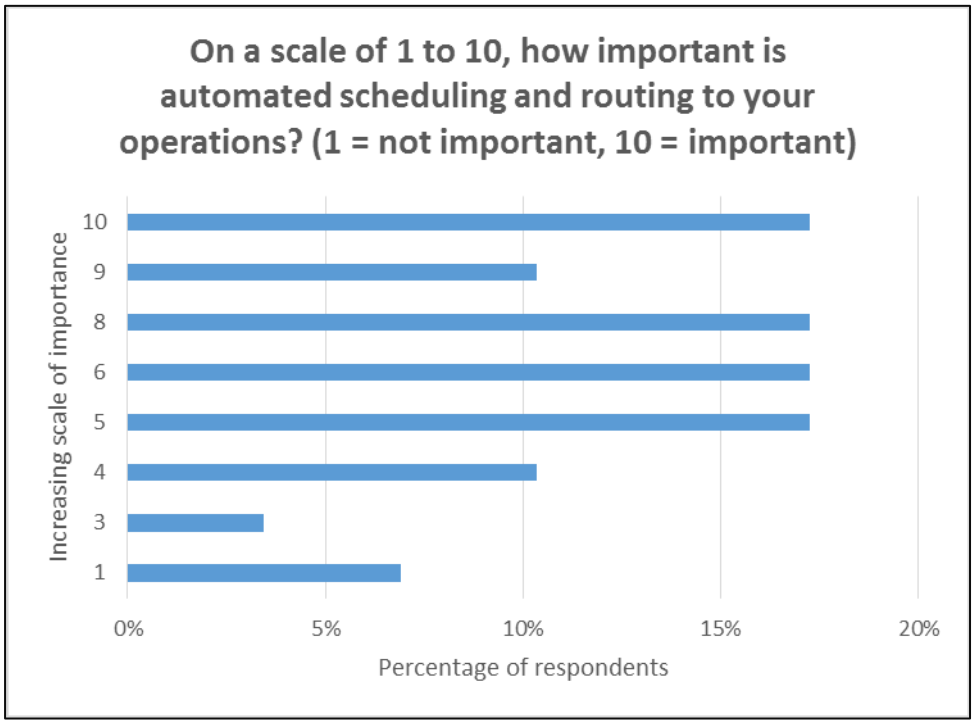
Once again, it is difficult to escape the conclusion that from a technology perspective, construction firms lag their peers in other sectors and industries.

The scale of the opportunity

But to what extent is this lack of technology adoption damaging – bearing in mind, as before, the importance that a significant majority of respondents attached to field service? In other words, which precise capabilities are respondents' businesses lacking – and are those capabilities important?

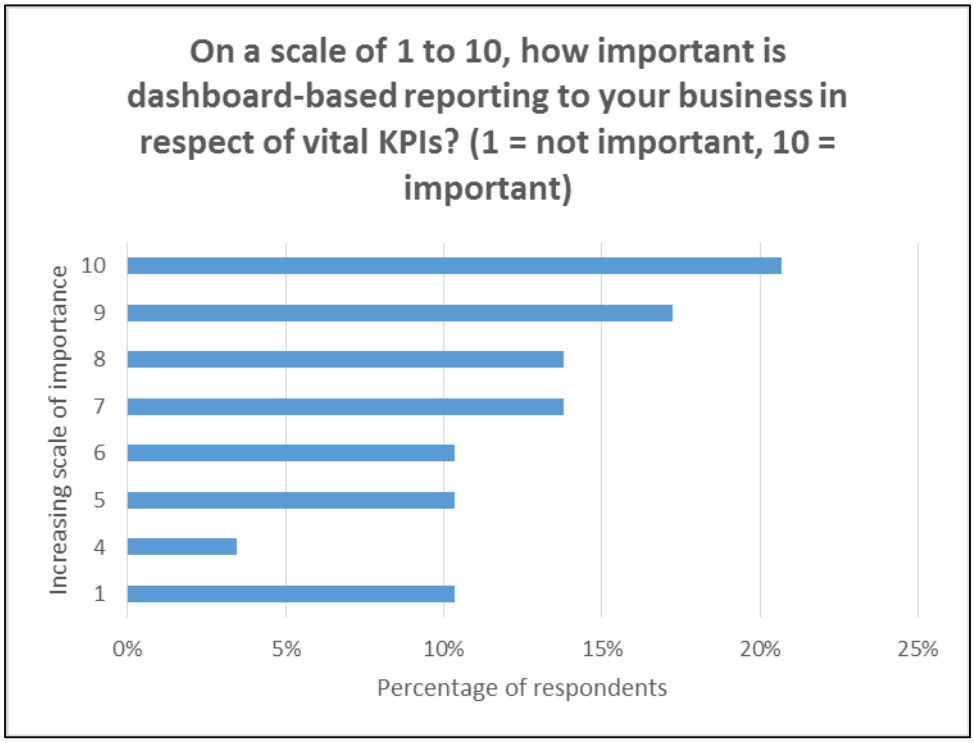
Take service call scheduling and optimisation, and route planning and optimisation, for instance. Such capabilities form the backbone of most mature field service management systems, enabling businesses to optimise the resource utilisation of expensive field service engineers while simultaneously routing those engineers and their vehicles from site visit to site visit in the minimum number of miles.

Sure enough, a significant proportion of respondents – 44% – placed the capability in the highest three deciles of importance, with 17% (almost one in five) ascribing the highest degree of importance to it.



Similarly, significant numbers of respondents placed a high value on dashboard-based reporting of business-critical KPIs, another feature offered by fully mature field service solutions. KPIs such as 'first time fix' rate, engineer utilisation levels, number of site visits per day, and average site visit duration can powerfully impact business outcomes such as profitability and customer satisfaction, and businesses rightly value such information.

In fact, 21% of respondents – almost a quarter – attached the very highest level of importance to dashboard-based visibility into such performance measures, with over half – 52% – placing it in the highest three deciles. The implication is clear: among construction firms, there is an undeniable thirst for up-to-date 'as it happens' performance visibility. But is that demand being met by the industry's existing IT architecture? From the evidence of this survey, that seems unlikely.

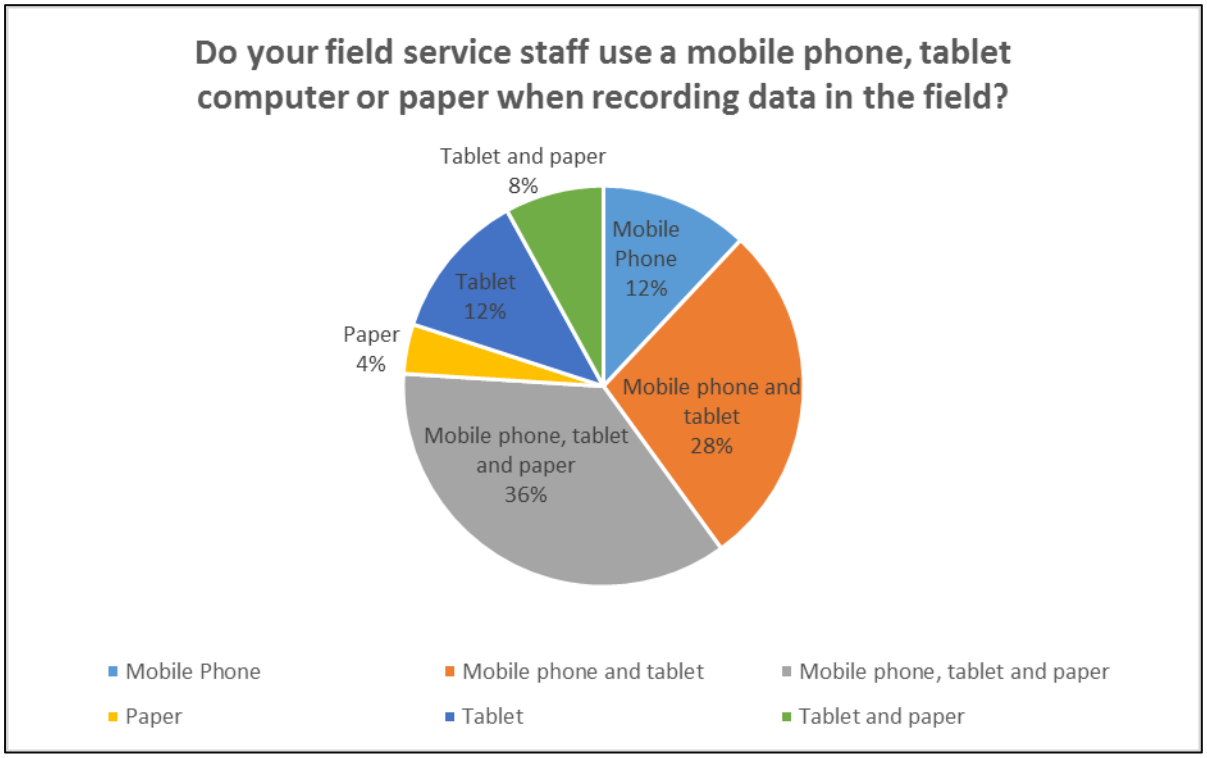


And yet – ironically – the gap to be closed may not be as wide as appearances might suggest. Historically, a significant barrier to the adoption of new workplace technologies has been the reaction of key front line employees when asked to adopt new working practices and technologies. Even today, significant numbers of IT initiatives either flounder, or are delayed, by just such resistance.

But in the case of mobile field service employees within the construction sector, though, a core technology foundation is already in place, lacking only firms' investment in software to effect a powerful transformation.

In terms of the technologies used to capture data out in the field, just over three-quarters – 70% – of respondent organisations use the notetaking, photographic, and other capabilities of mobile phones. 48% use tablet computers, and just 4% use paper alone.

Moreover, significant numbers of organisations use these approaches together: over a third (36%) of construction firms use mobile phones, tablets and paper together, for instance, while over a quarter – 28% – use mobile phones and tablets together.



Once again, the inference to be drawn is clear. Employees self-evidently stand ready and willing to use technology in their client-facing, field service roles – and, indeed, may have been the driving force behind the adoption of systems such as Dropbox, OneDrive and Google Drive as document sharing capabilities.

The message seems clear. The client-facing field service employees of construction firms already have the mobile technology to support more capable IT systems for field service – but do their employers have the willpower and wherewithal to invest in such systems?

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