



THE APPLICATION GAP IN MANUFACTURING

87% OF MANUFACTURERS STATE IT IS A PRIORITY FOR THEM TO GUARANTEE APPLICATION PERFORMANCE WHILE 85% CONFIRM IT POSITIVELY IMPACTS THEIR CUSTOMER SATISFACTION

SURVEY REPORT

(Re)discover Simplicity™
to Guarantee Application Performance

ipanema
Technologies



EXECUTIVE SUMMARY

The global manufacturing industry is crucial to economic growth and it contributes £6.7 trillion to the global economy¹. Competition in the industry is fierce, and success hinges on resilient supply chains and ultimately the delivery of high quality products, on time and at a low cost. Technological developments have enabled manufacturers to overhaul their processes, becoming more cost-effective and increasing output. However, the constant evolution of technology also presents challenges to the industry, whereby the development and integration of applications is creating excessive complexity at an organizational level.

Ipanema Technologies commissioned Loudhouse to conduct a multi-country survey of large manufacturers in order to understand their priorities and challenges. The research reveals that organizational complexity is a particular hurdle for manufacturing enterprises. Not only are they struggling to cope with current technology needs and systems, but future technology trends look set to put additional pressure on their resources and capabilities. Voicing a lack of confidence in mission-critical applications, the ability of manufacturers to successfully fulfil orders, remain competitive and achieve corporate targets is compromised.

The research highlights two key “gaps” for manufacturers to focus on: Firstly, the most mission-critical applications are those in which manufacturers have the least confidence, potentially destabilising the most important business processes.

¹ <https://www.innovateuk.org/high-value-manufacturing>

And secondly, whilst manufacturers are currently experiencing downtime with mission-critical applications and struggling to support current technological needs, deployment of new applications will only exacerbate these issues. It is crucial for manufacturers to address these two gaps if they are to succeed in an ever-changing market.

The key findings of the report are as follows:

Manufacturing mayhem

Manufacturers are operating in a complex environment:

- 83% state that operational complexity (more and more users, applications and systems to operate) is an

organizational challenge;

- Furthermore, other challenges are the pressure from the business to cut costs (71%) and to improve productivity (70%);
- 91% say that it is crucial, as manufacturers, to have absolute confidence in their technology performance;
- Half (48%) of manufacturing organizations have experienced unplanned mission-critical application downtime in the last year.

Technology trends

Aligning IT infrastructure with business objectives and implementing

Research methodology

More than 400 interviews were conducted with IT decision-makers involved in networking in manufacturing organizations. The respondents' organizations had at least 1000 employees. Interviews were carried out in the UK, France, Germany, Italy, Spain, Benelux, Switzerland and the USA. Respondents completed a survey in March – April 2014. Research was conducted by Loudhouse, an independent research agency based in London.

UK	52
France	52
Germany	50
Italy	51
Spain	51
Benelux	51
Switzerland	51
USA	52
TOTAL	410

Sample size

1,000-3,999	41%
4,000-6,999	25%
7,000-9,999	23%
10,000 or more	11%

Number of employees

virtualization are the main technology pain points:

- The top technology priorities over the next 12 months are virtualization (69%) and supply chain optimization (60%);
- Network design is changing due to technology trends such as cloud and mobile – mainly through server virtualization (41%), increasing bandwidth (34%) and network architecture changes (34%);
- The proportion of business applications delivered via cloud is expected to rise from 31% now to 41% in two years' time.

Application performance visibility and confidence gaps

Most manufacturing IT decision-makers are not able to guarantee business-critical application performance:

- 87% state that it is a priority for their organization to guarantee application performance;
- However, the majority do not have confidence that they are able to quickly and easily roll out new applications (73%) or troubleshoot application performance issues (70%);
- Just a quarter are very confident in the ability of the following mission-critical systems to support their organization's activities and ambitions: Logistics and distribution (26%), supply chain management (26%), and ERP system (27%);

- Just 30% say that they have a fully consolidated view of all the variables that impact ERP application performance;
- 68% – or two-thirds – agree that their current practices fail to provide adequate visibility into how distributed and mainframe applications interact.

The application performance imperative

There is a clear link between application performance, corporate revenues and customer satisfaction:

- On average, it takes 4 days to fully recover from a technology failure;
- There is an average 20% reduction in corporate revenues from poorly performing enterprise applications;
- Consistent and high levels of application performance are seen to have the most positive impact on customer satisfaction (85%), employee productivity (84%), supply chain management (82%), order cycle times (81%) and company financial targets (80%);
- In the past 12 months, the failure or under-performance of technology / applications has led to products being shipped late (42%), lower staff productivity (42%), and employees (38%) and customers (38%) complaining.

Amid business pressure to achieve more with fewer resources, technology performance is vital to the success of manufacturing organizations. With increased confidence in their applications

today, manufacturers can more confidently invest in new technologies to drive competitive advantage tomorrow. However, if mission-critical systems continue to disrupt business operations and technology challenges are not addressed, the application gap will impede manufacturers from realising their potential in both the short- and long-term.

MANUFACTURING MAYHEM

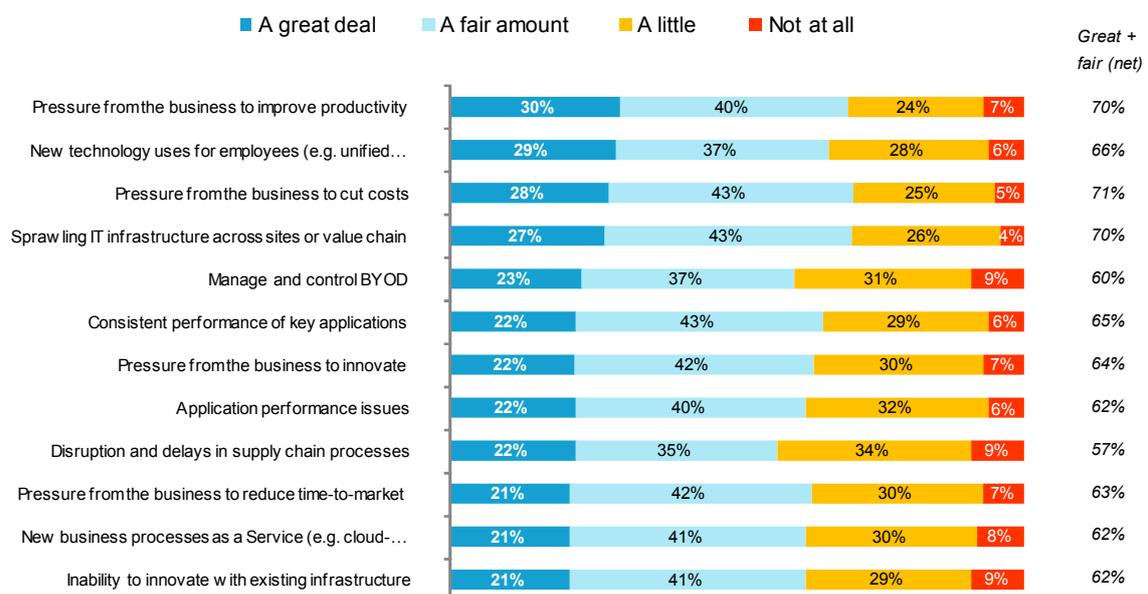
Manufacturers operate in an increasingly complex environment, under pressure to deliver quality output at a low cost and to a tight schedule. Operational complexity is a phenomenon that the majority of manufacturers are currently experiencing, with 83% stating that an increasing number of users, applications and systems is presenting a challenge for their

organization. This is of greater concern in Italy where 92% cite operational complexity as a current hurdle.

Alongside this complicated business landscape, manufacturers face many other challenges. As shown in *Figure 1*, pressure from the business to cut costs (71%), to improve productivity (70%) and to reduce time-to-market (63%) are top pain points for manufacturers today. In addition to this, 70% report sprawling IT infrastructure across sites or the value chain and ensuring the consistent performance of key applications is a key challenge for two-thirds (65%) of manufacturers.

Taking into account the pressures from the business to cut costs and improve productivity, it is understandable that manufacturers demand guaranteed application performance in order to meet their wider business objectives. In fact, the vast majority (91%) state that

Figure 1: Challenges currently facing the organization



it is crucial for manufacturers to have absolute confidence in their technology performance.

However, despite the clear priority of application performance, the reality for manufacturers is characterised by technology failures. Half (48%) report having experienced unplanned mission-critical application downtime in the last year. Furthermore, *Figure 2* shows that one in three manufacturing organizations (31%) report that the average number of unplanned downtime incidents has increased in the last 12 months. Manufacturers in the UK (44%) are the most likely to report an increased number of unplanned downtime incidents.

There is a disconnect between the importance of guaranteeing application performance and the level of confidence that manufacturers currently have in their technology platforms. In an industry wrought with challenges, technology has the potential to provide solutions rather than creating more problems.

TECHNOLOGY TRENDS

Whilst manufacturers are currently struggling to provide a consistent service and guaranteed application performance, they are also busy planning the implementation of new applications. The transformation of back-office technology and the need for optimised business processes will put additional pressure on application performance that manufacturers already see as compromised.

The main technology priorities for the coming year as shown in *Figure 3* are virtualization (69%) and supply chain optimization (60%). A significant minority of manufacturers also mention big data analytics (20%) and cloud deployment (18%). Technology trends such as cloud and mobile are also impacting network design in terms of areas such as virtualization (41%), increasing bandwidth (34%) and network architecture changes (34%).

Figure 2: Average number of unplanned downtime incidents changed in the last 12 months

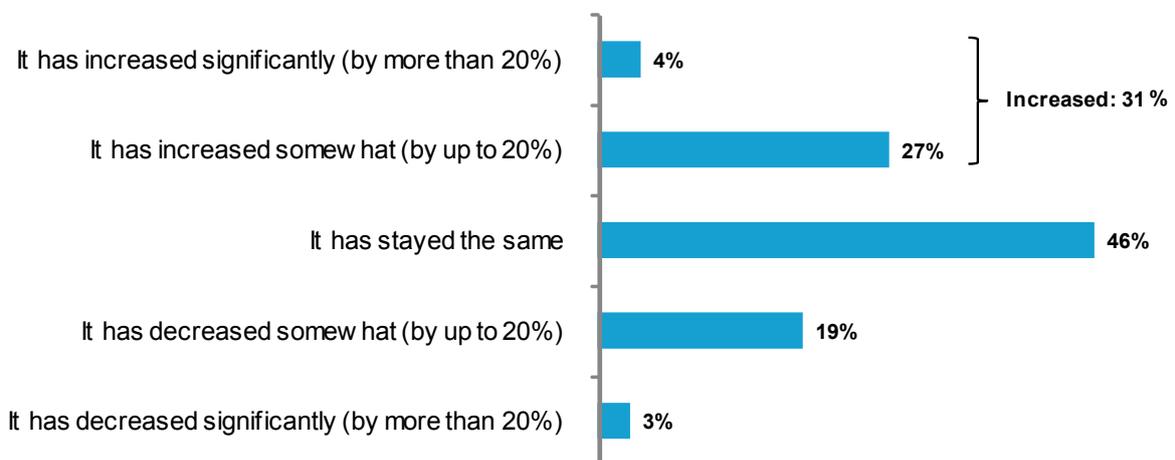
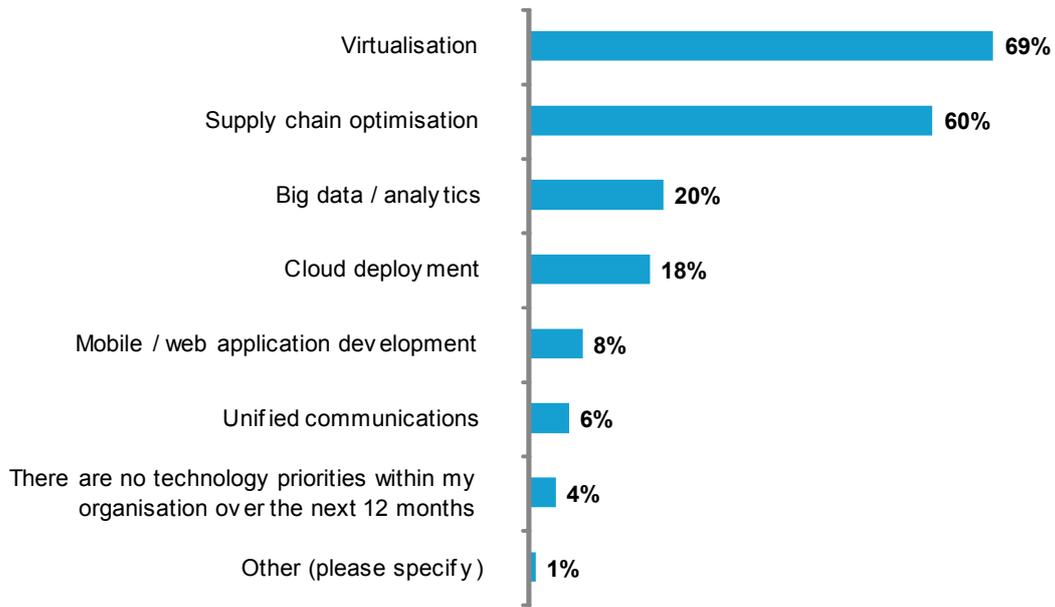


Figure 3: Technology priorities within the organization over the next 12 months

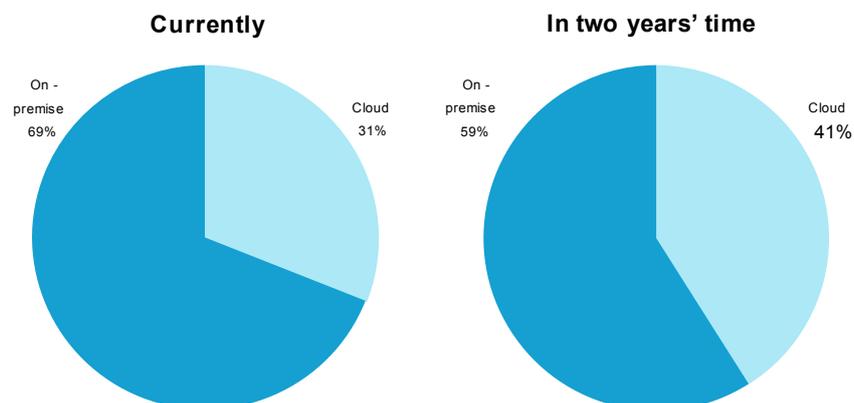


The continued migration from on-premise business applications to those delivered via cloud is an additional challenge to manufacturers. *Figure 4* illustrates that an average of just under a third (31%) of all business applications is currently delivered via cloud. However, in two years' time, this is expected to rise to

41%. This shift will require resources as well as application flexibility and confidence to ensure that the new infrastructure is fully aligned to and delivers on business objectives.

With current developments complicating the manufacturing application landscape,

Figure 4: Average proportion of business applications currently delivered via cloud versus on-premise software, and ideally in two years' time



future trends will add to the technology complexity for manufacturers. Indeed, in the next two years, manufacturers are planning investments in a range of areas including knowledge-based automation (47%), RFID for stock and inventory management (46%), self-checking inventories (45%), mobile app development (44%) and speed of updating status and progress (43%).

Application developers appear to be part of the problem as well as the solution. The survey reveals that two-thirds (68%) of manufacturers agree that application developers are unaware of the impact they have on the mainframe environment.

The manufacturing sector is clearly struggling to gain control of current technology challenges. Unchecked this will impact their ability to implement infrastructure changes and to leverage the benefits of future technology investments.

LACKING CONFIDENCE IN AND VISIBILITY OF APPLICATION PERFORMANCE

Whilst 91% of manufacturers state that it is crucial to have absolute confidence in their technology performance, the reality is that they lack confidence in their application performance as well as the visibility and insight to see the impact of different variables on the performance of core systems such as ERP.

The importance of application performance is clear, with 87% stating that it is a priority to their organization to be able to guarantee application performance, increasing to 94% in the UK and Italy.

Looking at the individual applications in

Figure 5: Confidence that the technology platforms currently uses by the organization are able to support organization's activities and ambitions

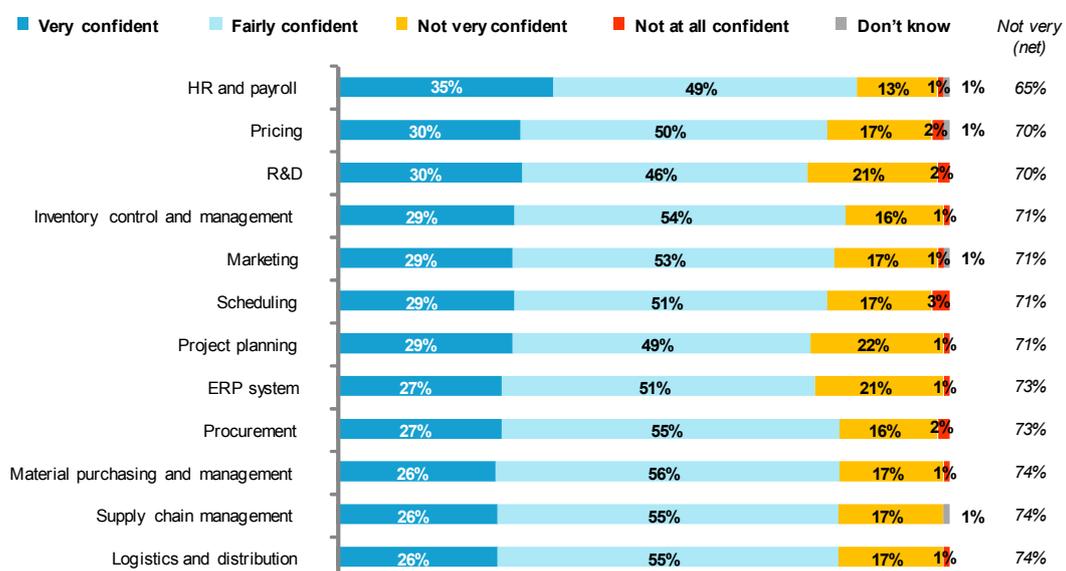


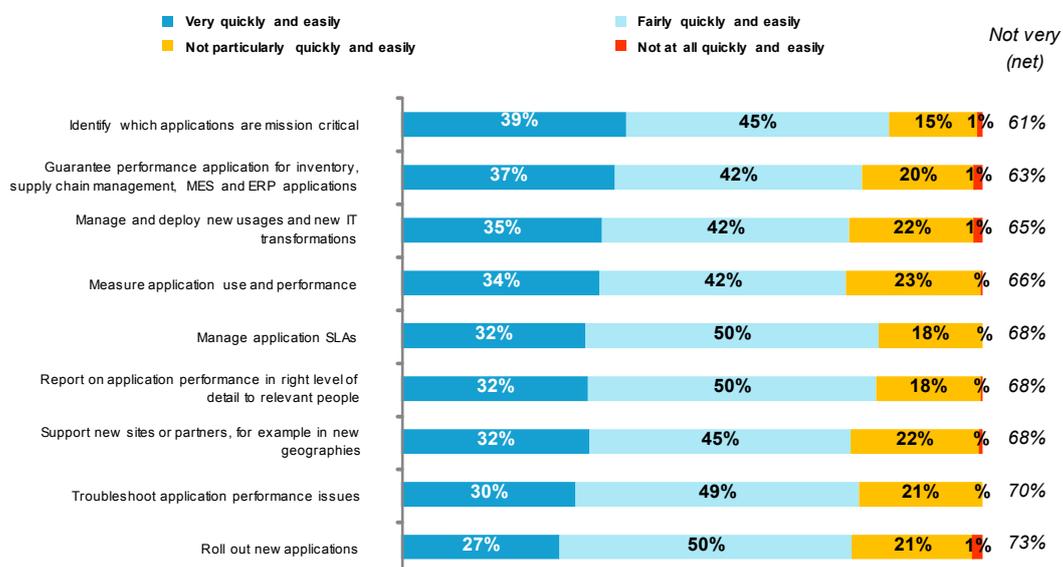
Figure 5, it is evident that manufacturers lack confidence in their platforms. Just a quarter are very confident in the ability of their logistics and distribution (26%), supply chain management (26%), materials purchasing and management (26%), procurement (27%) and ERP (27%) systems to support their organization's activities and ambitions. To compound this issue, manufacturers cite their logistics and distribution (37%), supply chain management (31%) and ERP (30%) applications as the most mission-critical of all. With a lack of confidence in the performance of the most important applications for business success, manufacturers are ill-equipped to get the most from the technology platforms. And it also affects future business prospects with seven in ten (70%) saying that their organization is struggling to get ahead of the competition when it comes to being in control of business applications.

Figure 6 shows that this lack of

confidence has consequences, with many manufacturers unable to quickly or easily manage various application tasks. Majorities say that they are unable to very quickly or easily roll out new applications (73%) or troubleshoot application performance issues (70%). Two-thirds are unable to readily support new sites or partners (68%), manage application SLAs (68%) or report on application performance in the right level of detail to the relevant people (68%). Spanish manufacturers are the most likely to lack confidence in rolling out new applications, while their French counterparts are particularly confounded by troubleshooting application performance issues (79%). If manufacturers are unable to confidently get new applications up and running or to troubleshoot existing applications, the industry will struggle to operate and be competitive in the future.

While manufacturers lack the ability to rely on the performance of their applications, they also have limited visibility of issues

Figure 6: The ability to quickly and easily manage various IT processes



with discrete applications and of their interplay. As shown in *Figure 7*, just 30% say that they have a fully consolidated view of all the variables that impact ERP application performance. This proportion is even lower (18%) among Spanish manufacturers. In fact, two-thirds (68%) state that their current practices fail to provide adequate visibility into how distributed and mainframe applications interact.

This lack of visibility manifests itself in a number of ways, but perhaps most telling is that fewer than half have a solution in place to enable them to do the following:

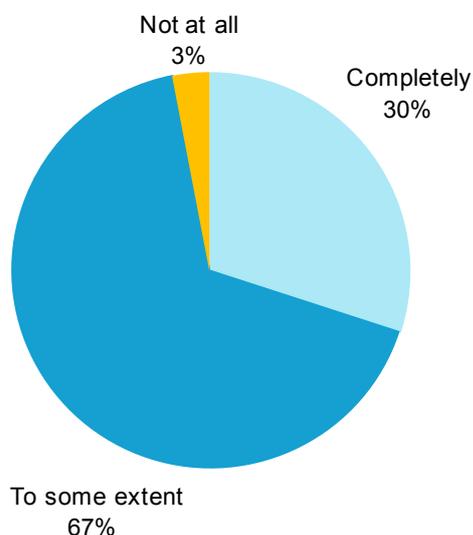
- Reduce time to identify root cause and

managing incidents before they impact productivity (44%);

- Leverage network and internet access architectures to adapt to SaaS migration (47%);
- Tackle IT governance in a phased approach (48%);
- Identify if slowness comes from their private network, an Internet cloud or an SaaS provider's infrastructure (48%);
- Manage increasing bandwidth needs while avoiding cost increases and delays (49%).

Application performance is critical to manufacturers but at this point in time they lack the ability to clearly see what is happening with their applications and also to act and make changes to their applications. Until manufacturers have complete control over their applications, they will find it difficult to achieve their goals and be competitive in the future.

Figure 7: Extent to which manufacturers have a consolidated view of all the variables that impact ERP application performance (from the end user's browser, across the network, through the data centre and into integrated sub-systems)



THE APPLICATION PERFORMANCE IMPERATIVE

Technology is vital for manufacturers to operate efficiently, innovate and be competitive. Application failure and under-performance not only impact day-to-day operations but can have far reaching implications across the supply chain.

For manufacturers who can achieve consistent and high levels of application performance, the company as well

as employees, the supply chain and consumers benefit. As shown in *Figure 8*, it has a positive impact on customer satisfaction (85%), employee productivity (84%) and satisfaction (77%), supply chain management (82%) and company financial targets (80%). Crucially, order cycle times are also impacted (81%) which can enable manufacturers to gain a competitive edge.

Conversely, failure to gain visibility and control over applications can cost manufacturers dearly. Manufacturers report that, as shown in *Figure 9*, due to the failure or under-performance of technology or applications in the last 12 months, they have shipped product late (42%), had lower staff productivity (42%), and employees (38%) and customers (38%) have complained. Furthermore, a

Figure 8: The impact of consistent and high levels of application performance

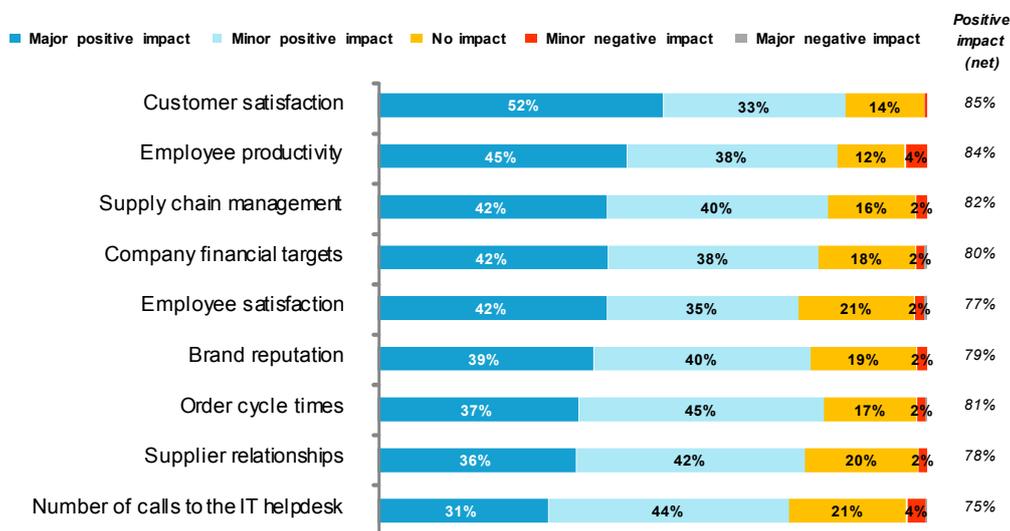


Figure 8: Experiences due to the failure or under-performance of technology or applications in the last 12 months



quarter (24%) say that customers have received low quality products and 22% say that customers have cancelled orders or not renewed contracts.

Technology failures take time to resolve; On average, it takes four days to fully recover from a technology failure. While these four days resources are focused on resolution, when the system recovers, it's not only 'business as usual' but there is also a backlog of work from those four days of downtime. For a third (32%) of those who have technology failures, it takes five or more days to fully recover.

The financial implications of a lack of application performance are considerable. Manufacturers report an average 20% reduction in corporate revenues from poorly performing enterprise applications. And nearly a third (31%) state that revenues can drop by 25% or more as a result. With cost reduction a current business pressure for many, and many regions currently emerging from a recession, manufacturers can ill afford to lose out financially through application gaps.

CONCLUSION

Manufacturers are operating in difficult times. Under consistent pressure to reduce costs and increase productivity, they are struggling to remain competitive. Technology platforms are an additional pain point with many experiencing

unplanned downtime of business-critical applications. A lack of confidence in applications and poor visibility of application infrastructures mean that technology is often more of a hindrance to success rather than an opportunity for business transformation.

Organizations in the manufacturing sector are aware of the consequences if they lose control of their applications. And due to shortcomings in their technology platforms, they are unable to reap the potential benefits. Manufacturers require confidence in their application performance if they are to close their application gaps and be in a position to rely on technology to drive business growth.

As manufacturing evolves and investments are made in new technology areas, the challenge of application performance will only intensify in coming years. With infrastructure and applications already creaking under the strain, the pressure to close the application gap is intensifying and manufacturers need to act now to capitalise on the benefits of guaranteed application performance.



ABOUT IPANEMA TECHNOLOGIES

Enterprises' Digitalization accelerates. In a world that moves at web speed, IT departments have more and more difficulties to manage the complexity of their information system.

Unified Communications, cloud computing, SaaS, BYOD, social media, VDI, retail 2.0 are just a few examples of IT trends that strongly increase IT complexity.

In this case, how can you regain control and align IT with strategic corporate objectives? How can you manage more demands and usages with the same network resources to stabilize telecom costs?

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