

THE AUTOMOTIVE PROGRAM MANAGEMENT RESEARCH REPORT

IDENTIFYING CHALLENGES AND FLAWED PRACTICES IN
SUPPLIERS' AUTOMOTIVE PROGRAMS

LIFECYCLE > INSIGHTS





EXECUTIVE OVERVIEW

Vehicle programs drive the structure of today's global automotive supply chain. In the context of sweeping and dramatic changes across the automotive industry, the ability of automotive suppliers to adapt directly impacts financial success. To better gauge the state of supplier program management today, Lifecycle Insights executed a research project called the 2021 Automotive Program Management Study.

The study's findings reveal that the complexity of today's automotive programs is skyrocketing. Today's automotive suppliers must deal with more complicated original equipment manufacturer (OEM) requirements, truncated schedules, and other challenges that make it harder to keep programs on time, on spec, and within budget.

That's why so many executives are taking action to improve their organizations' program management capabilities. Almost one-third of the survey respondents stated their companies had invested in efforts to enhance program management over the past two to three years. And those investments are not tailing off. Most of them also stated their companies would continue to invest in program management initiatives in the next year.

The findings from Lifecycle Insights' 2021 Automotive Program Management Study reveal where suppliers can target their efforts to reap

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the greatest benefit. Today, during the critical development and launch stages of the program, suppliers rely heavily on manual efforts to extract key information from data files, share that information, collect status updates, and assign essential tasks. Even though many program managers have significantly customized and configured generic business tools to better manage their programs, the survey results demonstrate those efforts are not enough. Program performance is still falling short.

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THE CHALLENGES OF MODERN AUTOMOTIVE PROGRAM MANAGEMENT

From the outside, an automotive supplier looks like any other high-volume, discrete manufacturer. Its production runs from thousands to millions of parts, streaming in a choreographed procession to vehicle assembly plants. But, unlike peers in other industries, automotive suppliers are not designing and manufacturing components independently. Instead, they bid on contracts to supply parts that OEMs require for vehicle programs.

A supplier's relationships with its OEM customers determine the parts it manufactures, the schedule for delivery, as well as the payment amount and timing. Following the award of a contract, suppliers execute all the steps to take a program from design to mass production and into delivery, including prototyping, tooling, sourcing, planning, quality, and compliance. These critical launch activities, which can take six to nine months or longer to complete, are coordinated by program managers responsible for customer satisfaction, on-time delivery, and profitability.

OEMs negotiate margin-constrained contracts with their suppliers, capping their potential profitability per program. That makes it essential for suppliers to execute the program and deliver manufactured parts and systems in an optimal fashion. They must meet that profit ceiling to ensure they are successful financially. Hitting that sweet spot requires incredibly diligent and disciplined program execution. Mistakes and delays will eat into the margin, so there is little to no room for error.

To make things even more complex, automotive industry programs have become more challenging in recent years. The 2021 Automotive Program Management Study's findings shined a light on some of those challenges:

The automotive industry is undergoing dramatic, sweeping change. The push to introduce electric vehicle (EV) models is attracting new OEM and supplier entrants, accelerating program tempo, and expanding program volume. Meanwhile, the pandemic exposed the fragility of global supply chains. The industry is still reeling from the immediate effects, including supply delays and price volatility. OEMs and suppliers alike are rethinking inventory strategies and questioning how to mitigate risk.

Program managers are operating at their limit, leaving room for errors and issues that turn into disruptions. When those disruptions occur, OEMs become more directly and intimately involved with their suppliers' programs.

Executives looking for ways to mitigate these issues are pursuing program management improvement initiatives. They are supporting investments in processes and technologies that can help program managers execute programs more efficiently.

THE LANDSCAPE IS EVOLVING

The automotive industry is changing quickly and dramatically. Many of the factors driving this change affect supplier program management. These evolving circumstances include the following:

- Emerging mobility models are presenting new opportunities for suppliers, yet they also hold great risk in the face of diverging requirements. It's not just about buying a car today. Ridesharing, shared mobility, and many other models demand new features.

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- Personalization and fit-for-purpose mobility are other trends of interest. Companies and individuals want and need the ability to personalize mobility solutions to their specific preferences.
- Environmental legislation around the world is introducing new emission regulations and incentives. As a result, automotive OEMs must develop a wider range of mobility solutions and track their compliance with environmental standards along the way.
- Significant technology advances represent an opportunity as well as a threat to safety. The emergence of assisted and autonomous driving systems and innovative electrification capabilities has given rise to a range of new safety standards.

ISSUES DRIVING CHANGE IN THE AUTOMOTIVE INDUSTRY

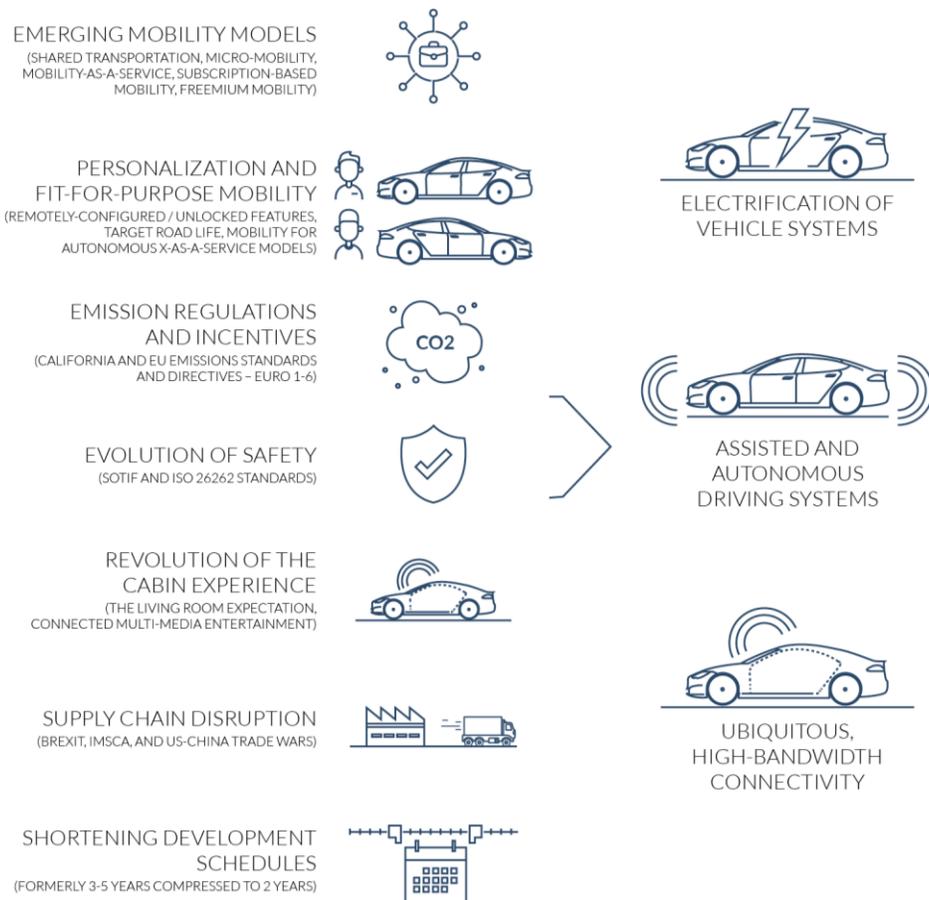


Figure 1: A range of issues is driving dramatic and widespread change in the automotive industry.

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These changes present growth opportunities for automotive suppliers that can adapt as well as execute. A determining factor, quantified in Lifecycle Insights' 2021 Automotive Program Management Study, is suppliers' ability to manage their programs effectively.

CHANGES IN PROGRAM IN THE LAST TWO YEARS

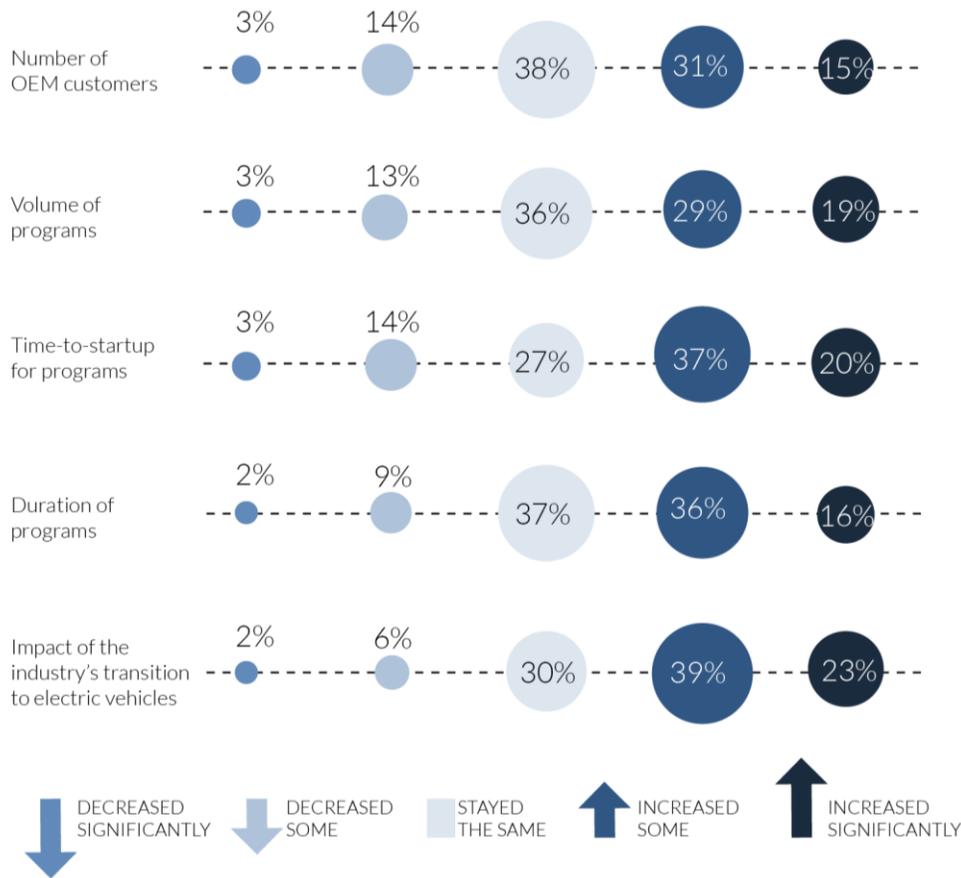


Figure 2: Changes in the automotive industry have led to more OEMs, more programs, shorter time-to-startup, and shorter programs.

- Forty-six percent of survey respondents stated that the number of OEMs is increasing or increasing significantly. This growing market certainly offers suppliers more opportunity. Yet, as each OEM has its own program management processes and procedures, suppliers will also be dealing with more complexity. Those who are just entering the industry are likely to have less mature practices, which represents more of a risk.

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- Similarly, 48% of respondents declared that the volume of programs is increasing or increasing significantly. Emerging mobility models, each demanding different solutions, personalization, and variation within the same platform, spawn more programs that must be managed against different requirements.
- Fifty-seven percent of respondents noted that the complexity involved with program time-to-startup is increasing or increasing greatly. In some cases, this number translates to shorter ramp-up periods. In other cases, it simply means companies have to run complex programs in the same amount of time they ran previous, simpler programs. Either way, these time crunches place more strain on automotive suppliers.
- Finally, more than half of respondents (52%) cited that the complexity involved with the duration of programs is increasing or increasing greatly. Both shorter and longer programs must be carefully managed and executed despite having more complex requirements. This is a significant challenge to suppliers managing more programs than ever before.

In short, suppliers are facing more difficulties when it comes to managing and executing automotive programs today. Unfortunately, the challenges don't stop there.

COMPLEXITY IS SKYROCKETING

While the changing OEM landscape brings new obstacles, suppliers also face a different set of challenges.

To start, today's automotive suppliers must deal with more certifications and regulatory compliance. A wide swath of new requirements comes from sustainability measures. Another group comes from evolving safety initiatives. These requirements saddle OEMs with increased burden, which they then pass on to suppliers. Suppliers need to develop and document compliance processes early on and throughout development and manufacturing. This is yet another facet of complexity that program managers must actively track, monitor, and manage.

The requirements and specifications from the OEM are also becoming more complicated. They include specific constraints on how and when deliverables are handed over, what types of processes are executed, and

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how they are executed. Companies may be asked to include particular quality assurance measures, change management processes, or reimbursement processes for tooling and other capital expenses. There may be other requirements as well.

The relationship suppliers have with a particular OEM can impact many facets of the business—and there may be unique processes involved with getting reimbursed for program launch, instituting change orders, or guiding tool production.

CHANGES TO PROGRAM COMPLEXITY

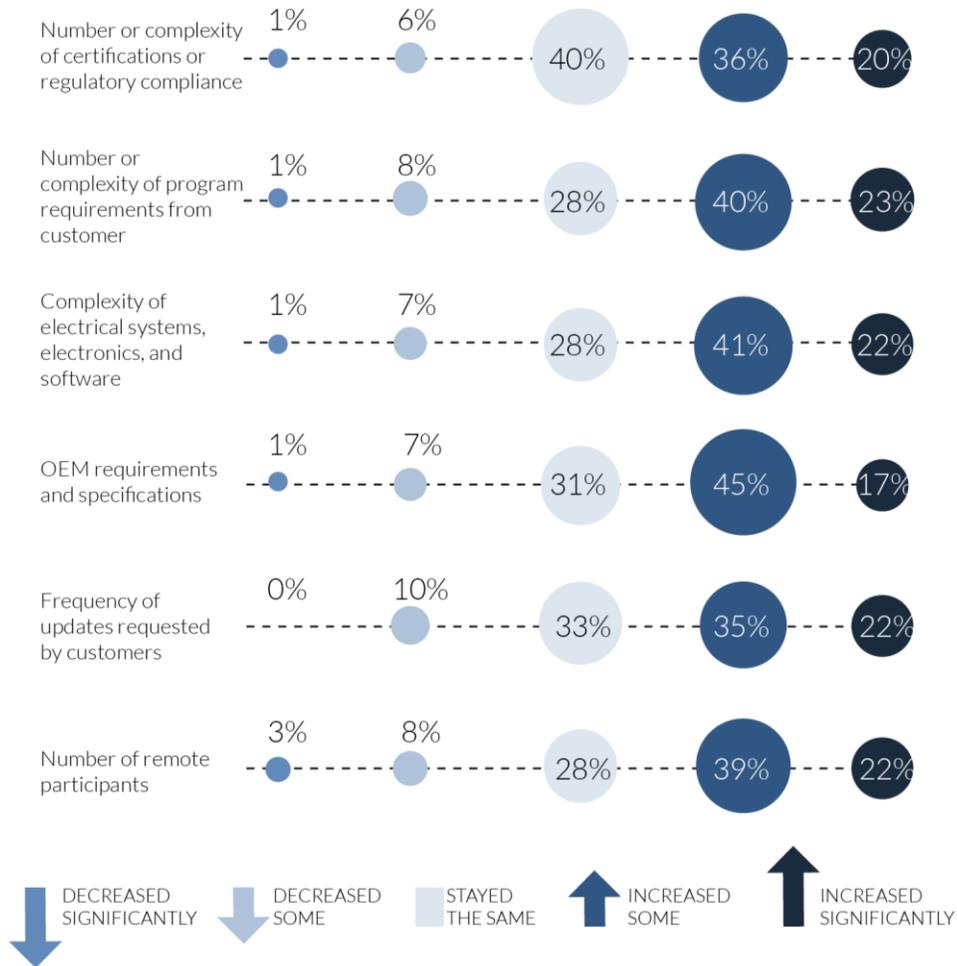


Figure 3: Automotive suppliers face increasing complexity across many program facets, including certifications or regulatory compliance, program requirements, electrification, frequency of updates to customers, and number of remote participants.

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Electrification is yet another megatrend in the automotive industry that is transforming nearly every aspect of supplier programs. Today's mobility solutions are packed with sensors, high-bandwidth networks, electronic control units, electrically actuated controls, battery platforms, and electric powertrains. But just as importantly, the software-is-eating-the-world trend has become pervasive. Software-enabled functions are increasingly replacing hardware components throughout vehicles. This means the amount of onboard software is rising. The development, sourcing, and manufacturing aspects of automotive programs are changing dramatically as a result. Program managers must mitigate more complexity than ever before.

Certainly, the COVID-19 pandemic has irrevocably changed the way manufacturing organizations work. Work-from-home orders and social distancing mandates have forced a new mode of coordination and collaboration. Stakeholders need to communicate differently. The configuration of manufacturing facilities and production lines has had to adapt. In an effort to mitigate similar future disruptions, executives are taking a hard look at processes and technologies that will enable contingency approaches. The new normal has arrived and is not going anywhere soon.

Much like the industry-wide trends, these organizational issues also place more strain on today's program managers and their ability to deliver programs on time with all requirements satisfied.

PERFORMANCE IS LAGGING

It's clear that today's program managers face a range of obstacles to success. Lifecycle Insights' 2021 Automotive Program Management Study showed that these challenges directly translate into a quantified effect on performance. Forty-two percent of respondents stated that errors creating downstream mistakes ultimately result in moderate problems that cause disruption or significant problems that cause major disruption. Only 17% of respondents maintained they did not have to deal with such errors or downstream issues.

To understand the relative health of program management in the automotive industry, however, it is important to look at the following study finding: The frequency with which customers required updates. More than one-quarter of the study respondents, 26%, revealed they must

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provide hourly updates to their customers on the status of programs. Another 39% were required to communicate status daily.

What does that mean, exactly? OEMs in larger suppliers rarely start off requiring such a high number of updates. It is only after a major disruption or issue that they demand an increase in updates. If the issues persist, then the frequency of communiques needs to increase, too. In some cases, customer representatives may come on-site to assist the program manager in performing root-cause analyses, stand in for direct status updates, or even provide ongoing general oversight of the program.

MISSED ERRORS THAT RESULT IN DOWNSTREAM DISRUPTION

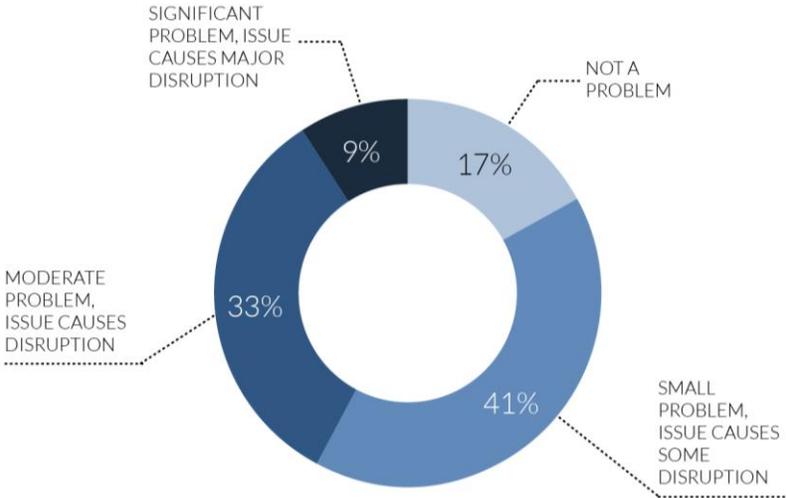


Figure 4: Errors and problems that result in moderate to major disruptions in programs are frequent in today's automotive programs.

FREQUENCY OF COMMUNICATION WITH CUSTOMERS

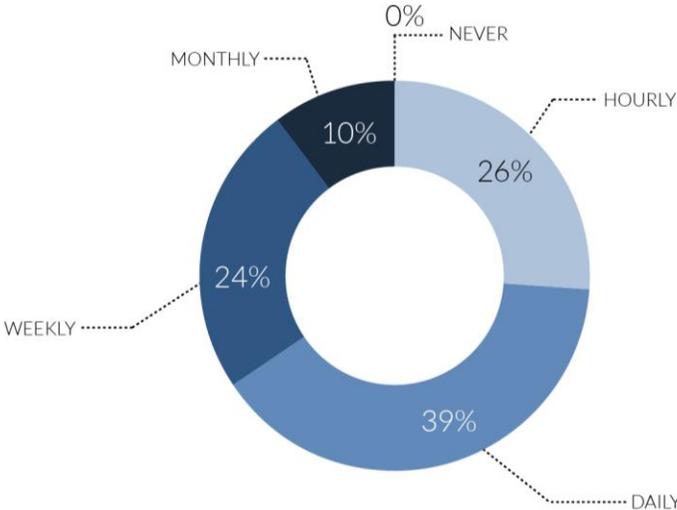


Figure 5: Twenty-six percent of respondents cited the requirement to communicate updates hourly to customers. Another 39% cited the need to communicate updates daily. Both are a sign of continued issues in program management.

EXECUTIVES ARE TAKING ACTION

Lifecycle Insights' 2021 Automotive Program Management Study revealed that suppliers' program execution challenges are resulting in failing performance. The findings also demonstrate that executives have noticed these shortcomings and are taking action.

Nearly one-third of all respondents reported that their company's leadership had sponsored or was looking to sponsor program management improvement initiatives. In addition, nearly six in 10 respondents stated that their company's program management function had pursued or was currently pursuing improvement efforts. This left a mere 9% of respondents who noted their organizations were not seeking improvements on this front.

COMPANIES' EFFORTS TO IMPROVE PROGRAM MANAGEMENT

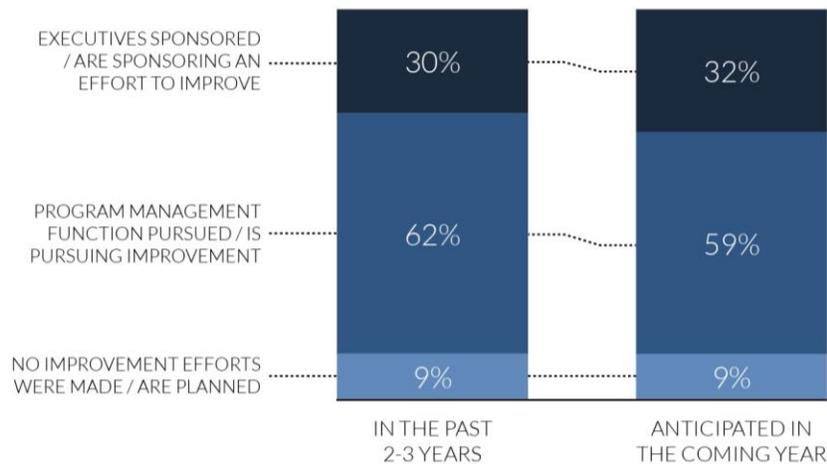


Figure 6: Nearly a third of respondents' companies have pursued an executive-sponsored program management initiative in the last two to three years or are anticipating one in the coming year. Nearly six in 10 respondents state that the company's program management function is leading similar efforts for the coming year.

TAKEAWAYS

There can be no doubt that automotive programs are in the midst of dramatic and sweeping changes, both in terms of the OEM landscape and

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the complexity of new products. Shifts in the industry are presenting new and significant challenges to program managers. These issues trickle down through OEMs and manifest themselves as problems in a variety of different ways across programs. The findings from Lifecycle Insights' 2021 Automotive Program Management Study offer clues that many suppliers are performing poorly when it comes to program management. Fortunately, executives recognize these ongoing challenges and are supporting improvement efforts.



IDENTIFYING FLAWED PRACTICES

The 2021 Automotive Program Management Study revealed that suppliers face significant challenges in program execution. Given those difficulties, it is imperative to understand what practices and methods are in use today, and where they may be lacking. There is little room for error in today's programs—and little time for outdated methods.

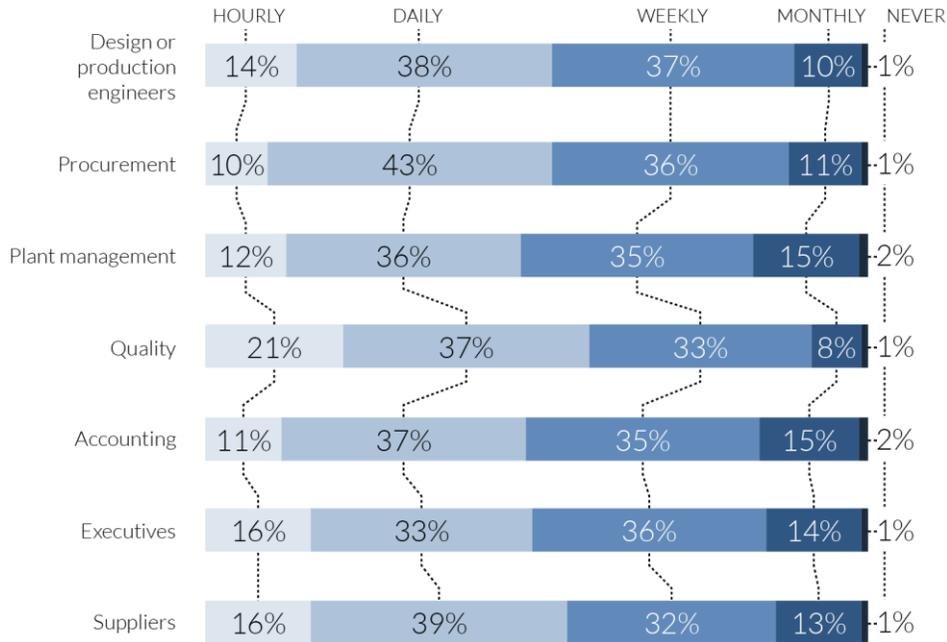
This section discusses the practices and methods program managers use most frequently today. It reviews each one in turn, identifying their inherent shortcomings, and detailing the capabilities that are needed in their place.

STAYING IN TOUCH WITH FUNCTIONAL DEPARTMENTS

Suppliers execute their programs across many functional departments in the organization. They must coordinate the activities of all those different teams to keep those programs on track. Program managers spend an inordinate amount of time monitoring what each team is doing and gaining insight into the digital deliverables they create and consume.

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FREQUENCY WITH WHICH PROGRAM MANAGERS COMMUNICATE WITH DIFFERENT FUNCTIONAL DEPARTMENTS AND ROLES



FREQUENCY WITH WHICH PROGRAM MANAGERS EXCHANGE FILES WITH DIFFERENT FUNCTIONAL DEPARTMENTS AND ROLES

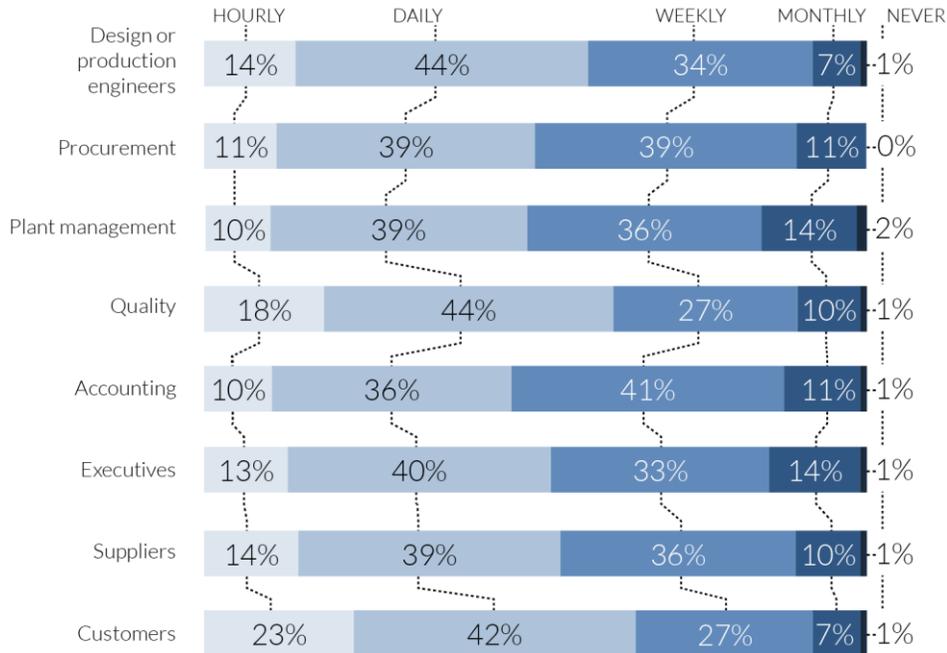


Figure 7: Program managers communicate and share files or data with stakeholders in many functional departments on a frequent basis.

As part of the study, Lifecycle Insights investigated the following concerns:

- The frequency of communications between program managers and other stakeholders in different functional departments.
- The frequency of file and data exchange between program managers and other stakeholders in different functional departments.

The study revealed that half or more of the respondents communicate with stakeholders in almost every functional department on at least a daily basis. The same holds true for exchanging files and data to support the program. A program manager spends a good portion of the day simply tracking down the current status of the program from different stakeholders' perspectives. It is clear that the inadequacy of the methods program managers currently use to communicate with stakeholders is a source of disruption.

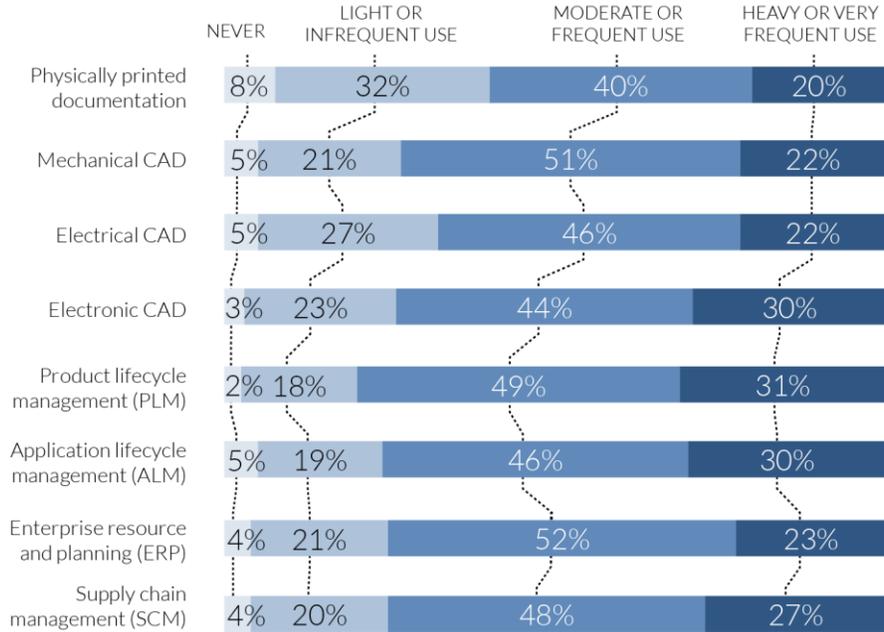
EXTRACTING INFORMATION FROM FILES AND SYSTEMS

Today's programs rely on digital information for proper execution. File and data are the lifeblood of these programs—without these collections of bits and bytes, mobility solutions would simply not be possible. Program managers must leverage this critical data to augment their communications with stakeholders across different functional departments, so easy access is crucial. To understand where program managers were getting that information, Lifecycle Insights asked survey respondents what kind of files and data they pulled to track their programs.

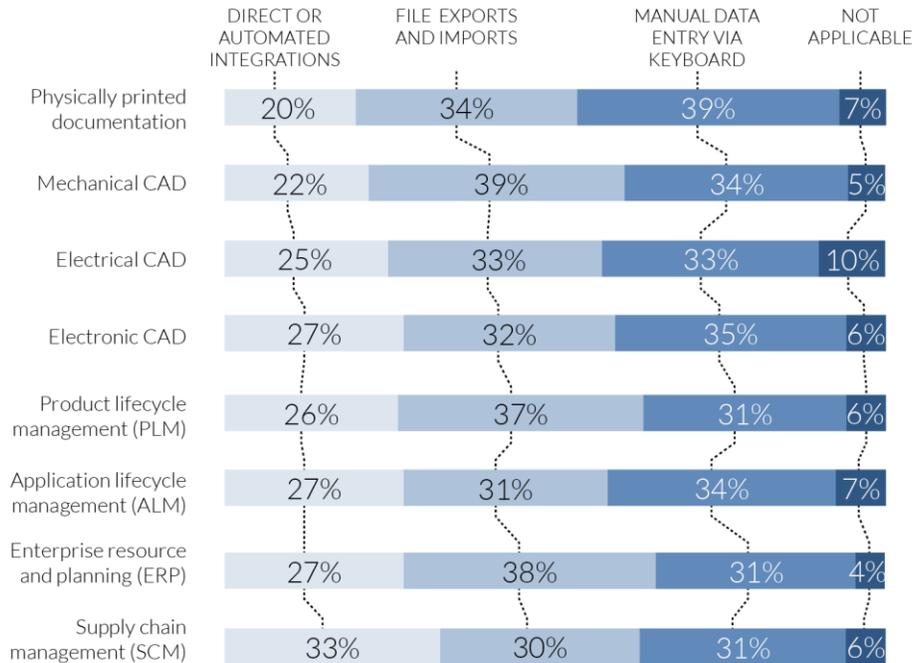
It is important to note that gaining access to a file or piece of data is not enough by itself. The means by which the data is pulled is also essential to having a clear view of the program's status. Findings from the survey demonstrated that program managers still rely on many manual methods, including file imports and exports and manual data re-entry. The latter often involves opening the file in a viewing or domain-specific application, like a computer-aided design (CAD) platform, or accessing an application like the enterprise resource and planning (ERP) system, to view and then manually enter values into a document or spreadsheet to share with stakeholders.

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FREQUENCY WITH WHICH PROGRAM MANAGERS PULL INFORMATION FROM SOURCES AND SYSTEMS



METHODS THAT PROGRAM MANAGERS USE TO GET INFORMATION FROM DIFFERENT SOURCES AND SYSTEMS



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Figure 8: Program managers pull information from a wide range of files and data to stay up to date. They also rely on manual methods, such as file exports and imports as well as keyed re-entry, for information that resides in files or data.

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The survey results also demonstrated that the use of these manual methods translates into disruptions down the line, as information that is buried in files and folders is not easily accessible to the people who need it the most. One can't see whether a file has been altered without opening it. And, once opened, in reality, it can be difficult to identify what changes have been made. These issues are often compounded when information is manually re-entered into files, which introduces the potential for human error.

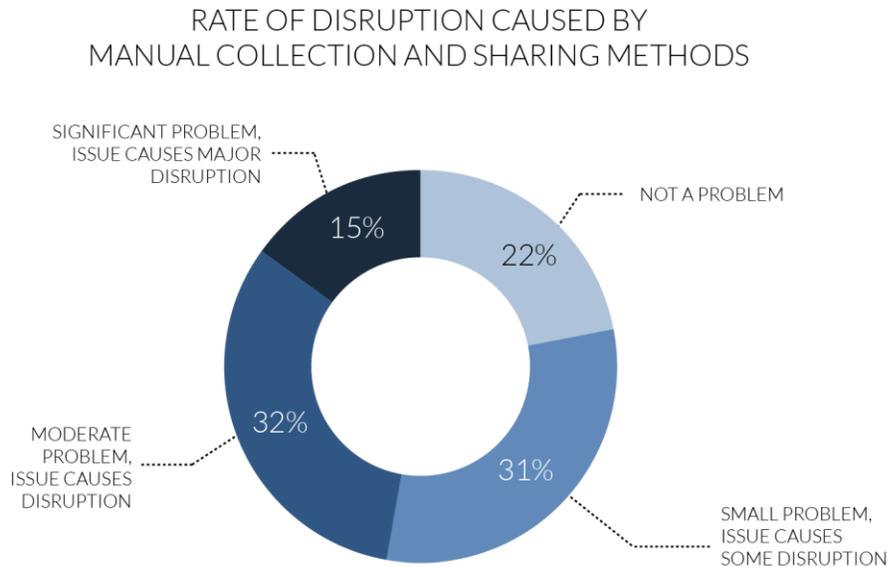
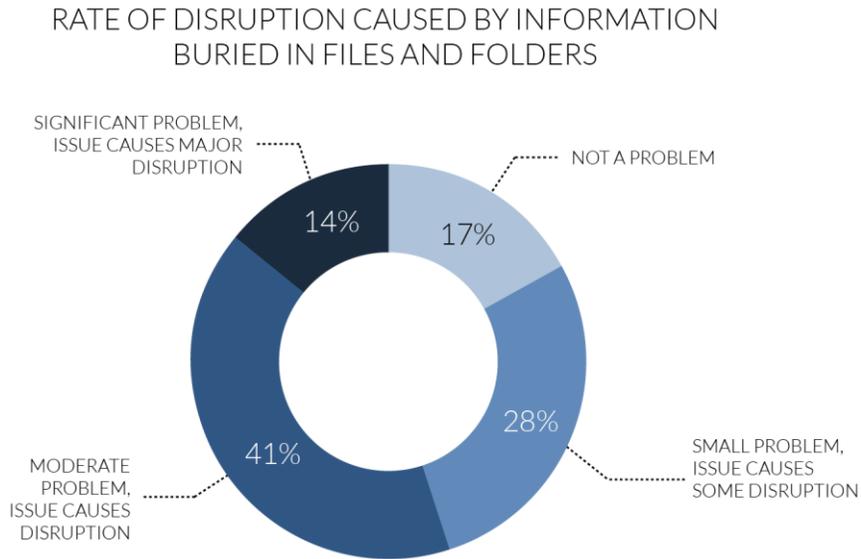


Figure 9: Manual methods of accessing information in data and files translates to major or moderate disruptions.

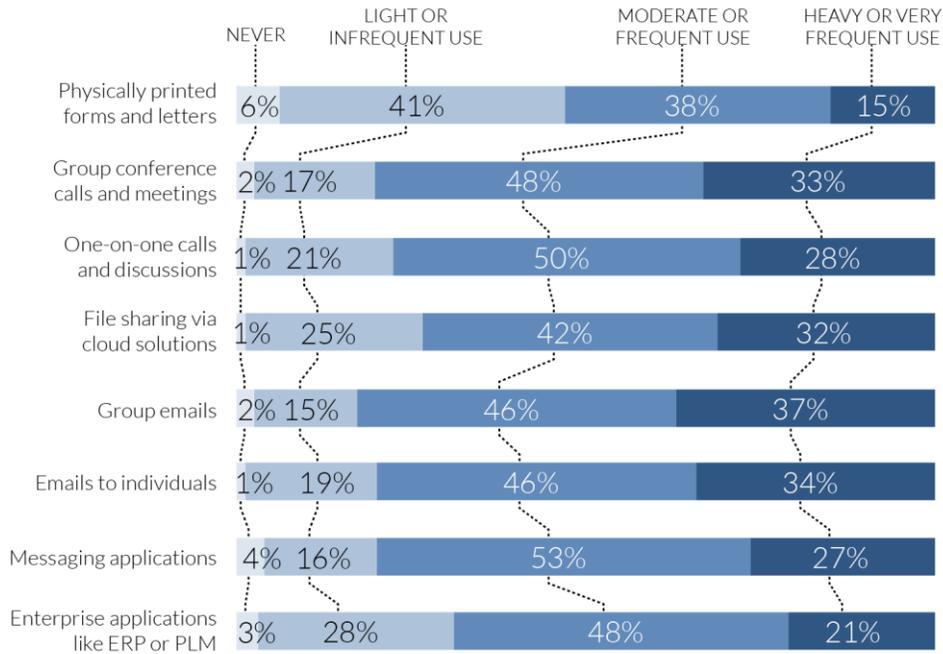
TRACKING AND SHARING SCHEDULES

Lifecycle Insights also questioned respondents about the methods program managers use to collect and share current program status with program participants. Emails to individuals and groups stand out as the most frequently used methods of communication. Yet, as is clear from the results, program managers also use many other methods to convey status, painting a picture of a fractious and poorly organized communication process.

Despite the frequency of communication, exchanges of files and data, and the various available communication methods, program managers still report significant disruption to programs due to untimely or inaccurate updates. The fact that stakeholders are remote also contributes to these difficulties. Program managers are investing considerable time to monitor status, but even the most superhuman efforts are not enough to avoid major or moderate disruptions to program execution.

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METHODS THAT PROGRAM MANAGERS USE TO GET INFORMATION FROM DIFFERENT SOURCES AND SYSTEMS



METHODS PROGRAM MANAGERS USE TO COLLECT STATUS UPDATES FROM OTHERS

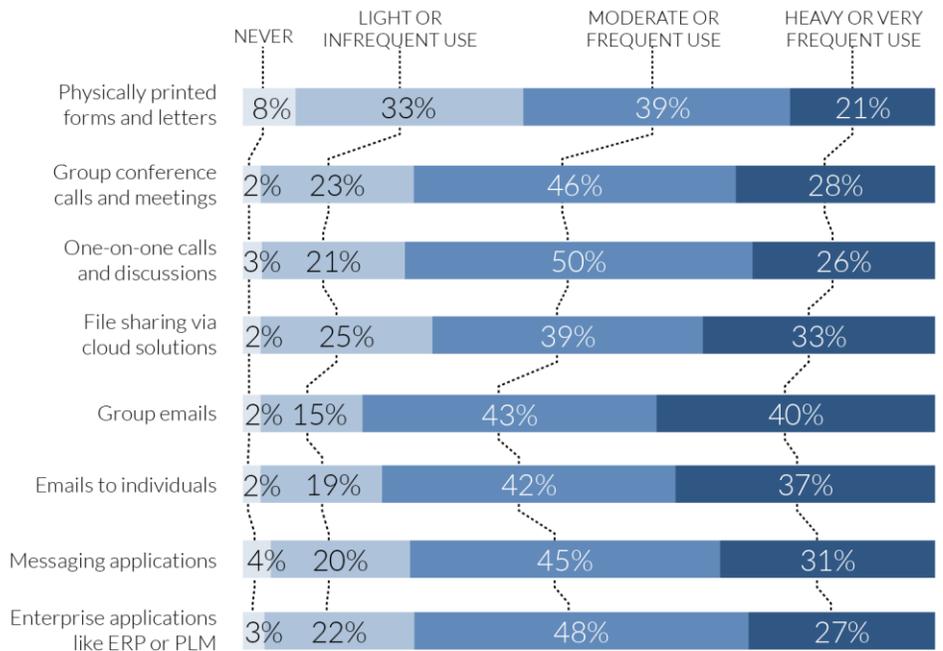
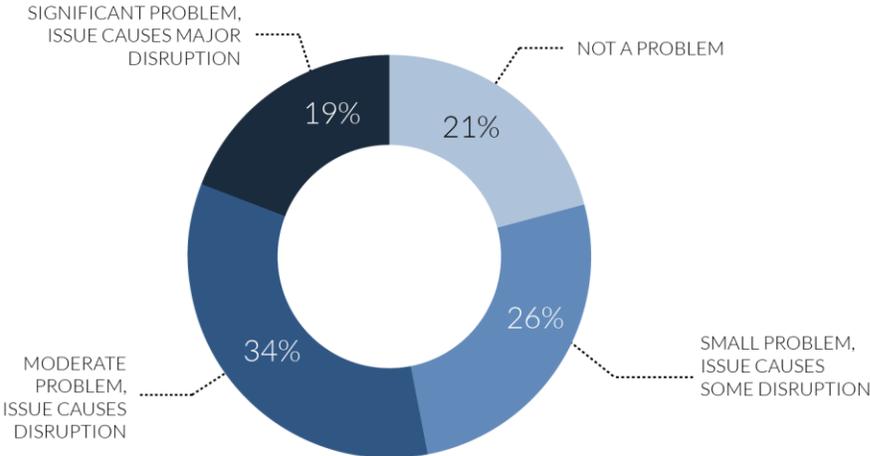


Figure 10: Program managers do not rely on one method to communicate, but a multitude of them.

FREQUENCY WITH WHICH SLOW UPDATES CAUSE PROGRAM DISRUPTIONS



FREQUENCY WITH WHICH REMOTE OR INACCESSIBLE STAKEHOLDERS CAUSE PROGRAM DISRUPTIONS

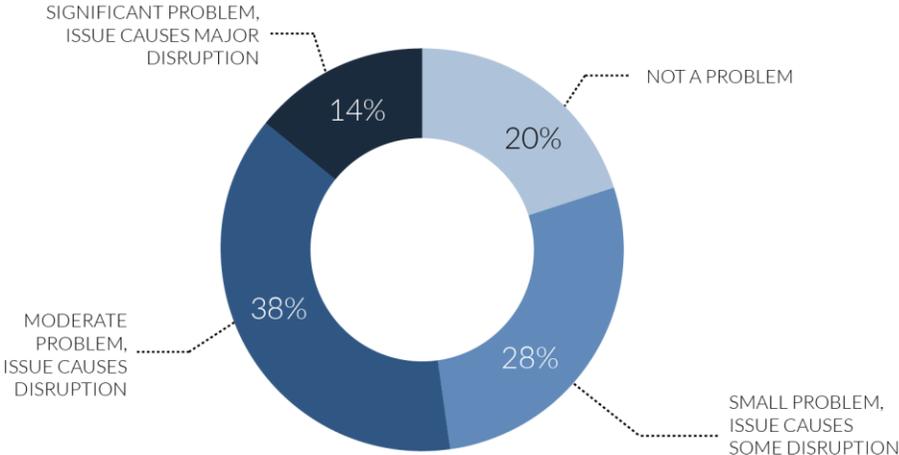


Figure 11: The inability to get timely and accurate updates—from stakeholders who may be remote or inaccessible—leads to frequent major or moderate disruptions.

TECHNOLOGY ENABLERS

Findings from Lifecycle Insights’ 2021 Automotive Program Management Study highlighted that program managers currently use a range of general business tools to do their jobs. These tools include email, spreadsheets, documents, and much more. But program managers are not utilizing these applications out of the box. In fact, the survey revealed that many program managers act as their own information technology (IT) or software development team, customizing and configuring solutions in order to better meet their specific needs. It is the rare one-third of study respondents who only lightly customize or do not reconfigure existing solutions to their own ends.

DEGREE TO WHICH PROGRAM MANAGERS CUSTOMIZE OR CONFIGURE SOFTWARE TO TRACK PROGRAMS

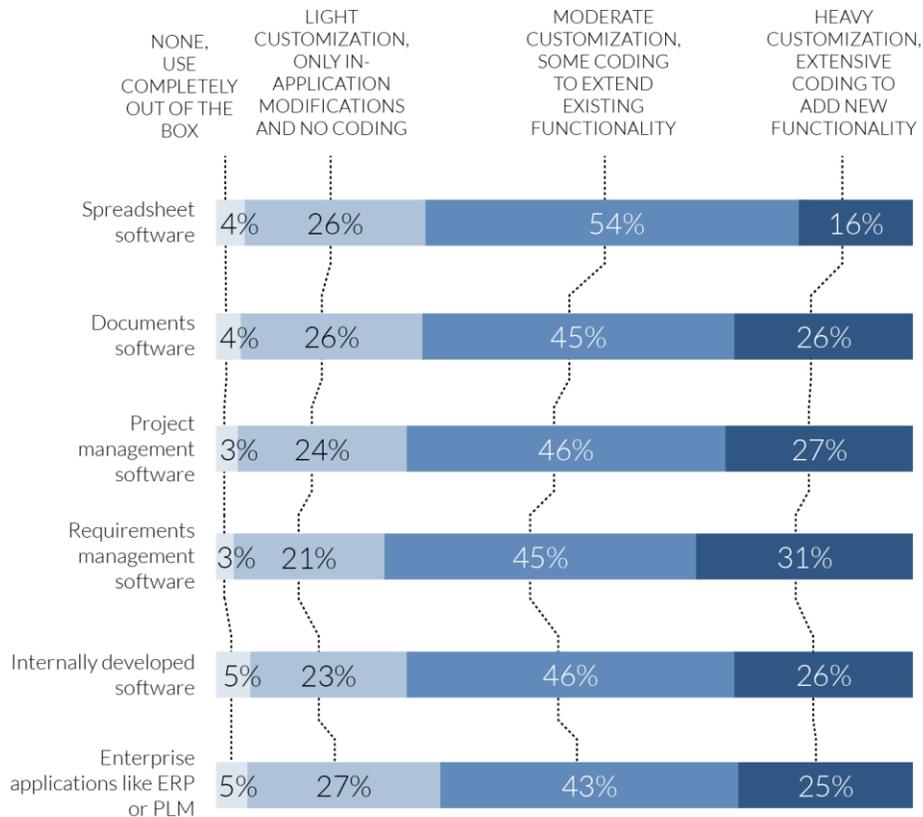
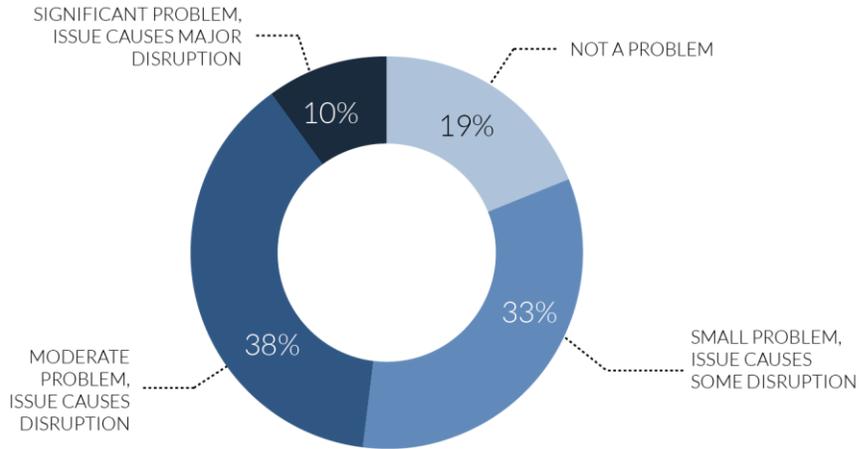


Figure 12: Program managers go to great lengths to customize and configure software solutions to address their needs.

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RATE AT WHICH A LACK OF INTEGRATION BETWEEN SOFTWARE CAUSES PROGRAM DISRUPTION



RATE AT WHICH THE TIME, EFFORT, AND DEPENDENCE ON INDIVIDUALS TO CUSTOMIZE SOFTWARE CAUSES PROGRAM DISRUPTION

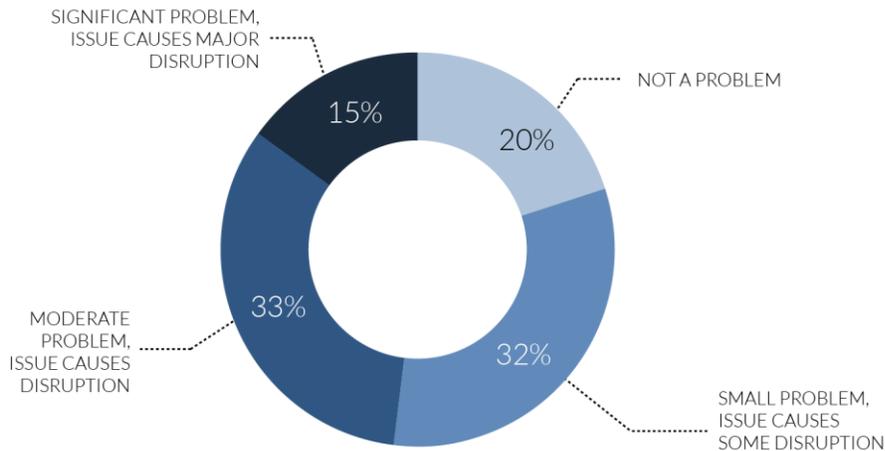


Figure 13: The tools used to track and manage status are a source of disruption in programs. The same holds true of internal systems. These systems require significant time to build and operate. They also create significant dependencies on key individuals who may leave, or not be available.

But these solutions still fall short despite the efforts made by program managers to tailor and enhance generic tools with new and modified

features. The lack of integration between tools results in a fractured, out-of-date view of program status. Adding to the complexity is that, while individual program managers may customize or configure systems to meet their needs, any value derived from those efforts is at risk if they change roles or leave the organization. All these factors contribute to major or moderate program disruptions.

ENABLER TAKEAWAYS

Executing programs is a challenging task. Doing it successfully is only possible when program managers can maintain an accurate, up-to-date picture of the program at any given moment. Then they can easily identify and correct errors before they snowball into catastrophes. Yet, the methods and tools program managers currently use are inherently flawed. When they rely on manual approaches to access and document information, program managers have limited visibility of their program status. They may unintentionally increase the potential of human error. Email and other communication methods also increase the risk of out-of-date views of the program. There is a lot of potential for delays and defrayed margins.



SUMMARY AND RECOMMENDATIONS

Automotive suppliers find themselves at a crossroads. The challenges of modern automotive programs coupled with increased product complexity mean that program managers experience a multitude of program execution issues. Their success or failure, more often than not, can be distilled into a single factor: the effectiveness and efficiency of their program management competency.

Lifecycle Insights' 2021 Automotive Program Management Study highlighted the modern-day balancing act involving more complex OEM requirements, shortened development schedules, and a lack of integrated tools and solutions that can help program managers keep abreast of the current status of their programs. Executives are taking action, looking for new solutions to help them enhance program management.

Ultimately, program managers must proactively identify and resolve issues before they become disruptions. They need solutions to gain accurate, up-to-date insight into the status of programs and any emerging problems. And to keep pace with accelerating demands, such solutions must also automate inter-department and cross-functional communication, relieving program managers of manual, ad-hoc, repetitive updates.

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Based on the findings of the survey, Lifecycle Insights recommends that automotive suppliers:

- Assess the complexity of the organization's automotive programs. Are requirements becoming more complex? Are timelines shortening? What is behind such changes?
- Determine whether programs are performing as expected. If not, what are the root causes of any difficulties? Do program managers have enough visibility to mitigate ongoing risks?
- Identify the data and files that need to be exchanged between program stakeholders and other functional departments to gain a complete view of programs. What tools and systems are being used to pull information out of them?
- Ascertain the tools that are being used to collect schedule status and share assignments with other functional departments. How many require manual work?
- Establish the extent to which generic business tools may be reconfigured or customized to meet program management needs. Have such efforts been effective?
- Identify the gaps in systems and processes, especially where the digital flow of information is broken, and manual intervention is needed. Are customer and executive questions addressed in adequate timeframes?



Chad Jackson leads Lifecycle Insights' research and thought leadership programs, attends and speaks at industry events, and reviews emerging technology solutions.

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EMAIL - contact@lifecycleinsights.com

SITE - www.lifecycleinsights.com