2022 AGILE ADOPTION IN THE CONSUMER PRODUCT INDUSTRY STUDY

HOW CONSUMER PRODUCT MANUFACTURERS ARE CURRENTLY UTILIZING AGILE DEVELOPMENT FRAMEWORK

LIFECYCLE > INSIGHTS

EXECUTIVE OVERVIEW

Consumer product companies are taking a page from software designers. More organizations are looking to implement agile development processes to deliver greater value to their customers—and stay competitive in a crowded, global marketplace.

The agile development process is a unique, interactive approach to project management that streamlines processes and minimize challenges. By working in small, collaborative increments, consumer product development teams can better respond to customer demands and other market drivers.

To understand how consumer product manufacturers are currently utilizing the agile development framework, Lifecycle Insights conducted the 2022 Agile Adoption in the Consumer Product Industry Study. The study confirmed that many organizations are looking to adopt more agile processes and revealed the obstacles they face in doing so.

The first section of the report discusses the different drivers that consumer product companies are facing that are leading them to consider more agile processes. These include:

- the demand for smart, connected products and rising complexity;
- customer requirements, competition, and product differentiation;
- improved flexibility, empowerment, and accountability; and
- the need to involve customers and other key stakeholders.

The next section shares the results of Lifecycle Insights' 2022 Agile Adoption in the Consumer Product Industry Study, including the current state of agile adoption, the length of pursuit, and the major hurdles that consumer product companies face as they attempt to move toward the agile framework.

Finally, the report highlights the most common agile tactics that survey respondents are using, including monitoring tasks and progress with Kanban boards, having daily stand-ups, using sprints to assign tasks, seeking feedback from customers and stakeholders, and coming up with a minimum viable product during the first iteration of design.

With products, organizations, and workflows becoming increasingly complex, consumer product companies are looking for new ways to support product development. The agile development framework offers a more digestible, collaborative approach that can aid organizations as they seek to become more competitive, increase profits, and meet new product requirements today and well into the future.

TABLE OF CONTENTS

DRIVERS OF AGILE PRODUCT DEVELOPMENT ADOPTION

Understanding consumer product companies shift toward changes in their design and development processes begins with understanding the factors primarily driving them to consider such changes. Lifecycle Insights' 2022 Agile Adoption in the Consumer Product Industry Study asked respondents to identify those factors, which are detailed in this section. They are:

- *Rising product complexity.* Today's products are increasingly complex, and companies must have the tools and processes in place to support multi-disciplinary design.

- *Customer schedules, seasonal constraints, and other product requirements.* Changing customer needs, seasonal variability in demand, cost constraints, and contractual obligations also complicate the product development process.

- *Competitive pressures.* Many consumer product companies face high levels of global competition, which makes getting to market quickly, keeping product cost down, and making innovative, differentiated products more important than ever.

- *Improved flexibility, empowerment, and accountability.* Companies are often being tasked to do more with less. When they can empower staff

to be accountable with the right tools, they can be more flexible across all of product development—and more profitable, too.

- *Involving customers and other external stakeholders in development.* No longer can companies take requirements at the beginning of the product development process. Organizations need to be able to course-correct at any point when faced with changing expectations or supply chain disruptions.

RISING PRODUCT COMPLEXITY

Customer demand for smart, connected products is growing by the day. The complexity of those products is also growing. Even a common household item like a toothbrush may now feature mechanical components, electronics, and software. Integrating work from so many engineering domains makes designing and developing consumer products more difficult than ever.

Figures 1 and 2 illustrate the potential scope of a typical product's complexity and how common it is for products to have literally thousands of components. Given that context, it is unsurprising that more than half of 2022 Agile Product Development Study respondents (53%) cited the complexity of production as the top external factor contributing to their company changing its development practices and processes.

Small and medium-sized businesses (SMBs) in the consumer product sector that do not evolve to cope with rising complexity may find themselves falling behind the competition. These companies must implement processes and solutions that allow work to be effectively coordinated and integrated if they are to maximize the efficiency of design and development while also managing other pressing business concerns, such as time-to-market and product quality levels.

ARE THE FOLLOWING INCREASING OR DECREASING IN COMPLEXITY?

Category	1%	4%	18%	39%	28%	10%
UI/UX design	1%	4%	18%	39%	28%	10%
Number of total participants or stakeholders	3%	2%	15%	39%	21%	22%
Number of remote participants or stakeholders	1%	4%	13%	29%	38%	16%
Number of supplier or partner participants	1%	1%	17%	30%	33%	18%
Number of customer participants		3%	14%	23%	38%	22%
Number of participants from different countries	1%	4%	10%	38%	32%	16%
Number of participants from different cultures	1%	2%	10%	34%	36%	17%

UNSURE, NOT APPLICABLE, OR DON'T KNOW — MODERATE DECREASE — SLIGHT DECREASE — STAY THE SAME — SLIGHT INCREASE — MODERATE INCREASE — LARGE INCREASE
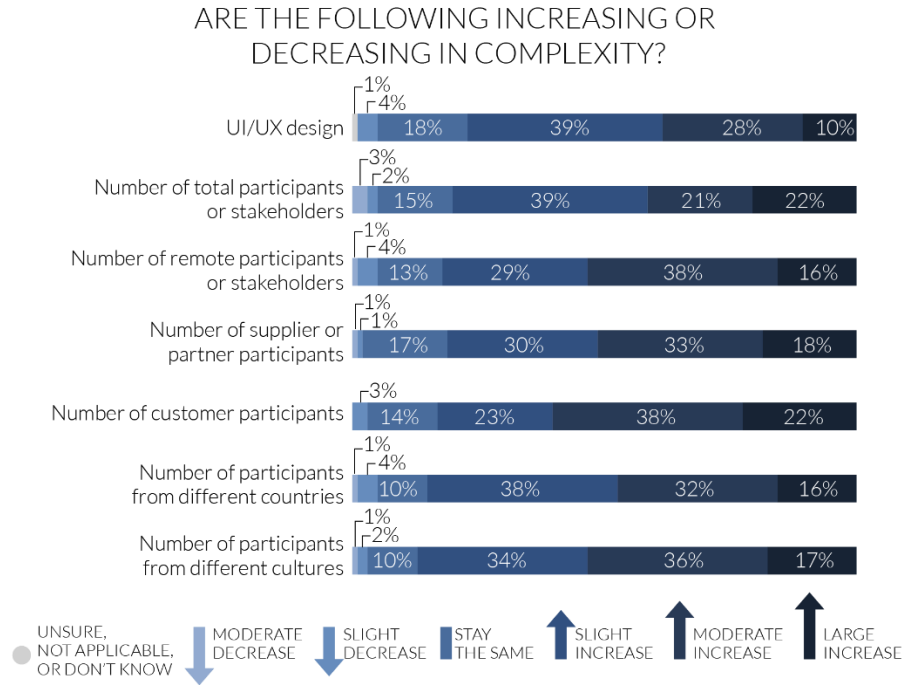
Figure 1 – The number of customer participants has led to a large or moderate increase in complexity.

DEMAND FOR SMART CONNECTED PRODUCTS AND RISING COMPLEXITY

In your products, what is the average number of…

… mechanical components?	Less than 100	Between 100 and 1K	Between 1K and 10K	Over 10K
	26%	61%	12%	1%
… electrical endpoints?	Less than 10	Between 10 and 25K	Between 25 and 50K	Over 50K
	14%	43%	37%	6%
… circuit boards systems?	Less than 10	Between 10 and 25K	Between 25 and 50K	Over 50K
	25%	32%	33%	10%
… software lines of code?	Less than 500K	Between 500K and 1M	Between 1M and 5M	Over 5M
	17%	25%	38%	20%

Figure 2 – One way to measure complexity is through the number of different types of components in a product.

CUSTOMER SCHEDULES, SEASONAL CONSTRAINTS, AND OTHER PRODUCT REQUIREMENTS

Increased product complexity is not, of course, the only external factor causing consumer product companies to change their approach to the development process. Manufacturers must also consider customer schedule and seasonal requirements, the needs of regional markets, and other product requirements, all of which make development more complicated.

If a customer requires an increased number of products by a certain date, such as the start of the holiday shopping season, and the manufacturer is unable to adapt its processes to meet that need, the customer may simply move on and find one that can. Similarly, demand for some products varies by season or region. An inflexible approach to product development may translate to an inability to meet that demand and put companies at a disadvantage. Consumer product companies must also meet other product requirements, such as cost constraints or contractual obligations. Failing to do so can result in additional costs and penalties that can quickly push project over budget.

Managing these areas of concern requires companies to exercise greater flexibility in production. Being able to adapt quickly is crucial. Companies that can rapidly adjust delivery timelines when necessary, increase production output to meet a seasonal need, and work more efficiently to meet cost and contractual obligations will be better positioned to manage the development process's incredible complexity.

COMPETITIVE PRESSURES

Consumer product companies also face significant competitive time, cost, and product differentiation pressures in today's market. The 2022 Agile Product Development Study reveals that these pressures are another factor driving the change of their development practices and processes. More than half (51%) of respondents identified time, cost, and differentiation pressures as a top-three factor in the decision to pursue such changes.

Competitors can now emerge from almost anywhere in the world and get their products to market quickly. Globalization has therefore amplified the pressure on manufacturers to get to market quickly, keep product cost down, and create innovative products that differ meaningfully from their peers'. If a company fails to achieve even one of these goals, the results can be very costly.

Effective product development practices and processes are critical to keeping up with—and potentially moving ahead of—the competition.   Companies can cut development costs by reducing the number of physical prototypes required or increasing their efficiency in other ways. They must be careful not to inadvertently lower product quality or decrease profitability by taking shortcuts such as reducing research, customer feedback or skipping simulation. But if they can avoid these pitfalls, they will enjoy greater profitability and increased competitiveness.

Finally, companies understand that differentiated products are vital to their prospects. By creating products that stand out, whether because of their advanced safety features, their use of eco-friendly materials, or some other element of their design, companies can add value for their customers, improve their brand name, and thrive in a hyper-competitive environment. Pursuing changes to their development approach that allow them to achieve greater differentiation will yield a real competitive advantage.

IMPROVED FLEXIBILITY, EMPOWERMENT, AND ACCOUNTABILITY

Product design managers seek flexibility from design teams. When teams aren't flexible, it can be difficult to make progress efficiently because only certain team members possess the expertise required to advance certain aspects of the design. This approach is too contingent on the bandwidth of particular individuals and slows down the design process.

In contrast, when any member of the team can handle any aspect of design, executives can quickly move people to different projects to maximize human resource utilization. Managers can avoid idle time for the design staff and balance out the work. Having this sort of flexibility allows companies the luxury of working leaner, with smaller design and engineering staff numbers. It also enables more versatility. As a result, productivity improves, and managers can get more output from smaller teams. Given these advantages, it is unsurprising that more than one-third of study respondents (35%) identified the need for greater flexibility as the top internal factor driving changes to their development practices and processes. Nearly two-thirds (62%) cited this need as a top-three driver of change in their organization.

Executives also want team members to be more accountable for their assigned tasks. But accountability cannot happen without empowering employees with the tools they need to do their jobs. Half of all respondents identified the need for greater accountability and increased empowerment as one of the three factors that contribute most to their company adjusting its development practices and processes.

When employees feel empowered to take measured risks, innovation can occur more rapidly, and product outcomes are likelier to improve. Today's managers must balance accountability and empowerment, establishing an environment where engineers feel safe taking those kinds of risks in order to realize such benefits.

INVOLVING CUSTOMERS AND OTHER EXTERNAL STAKEHOLDERS IN DEVELOPMENT

To find success, companies must involve customers early in the development process. Executives want to gather customer inputs early while also collecting their opinions about products at every milestone. Understanding customer needs and altering product design to meet customer expectations is critical for companies looking to launch differentiated products in the marketplace. They need to understand their market segments well and respond to changes and expectations when necessary.

Companies are looking for ways to take in customer input at different stages of product development and make course corrections as needed. Of course, customers are not the only stakeholders with an opinion. Executives also want to include suppliers early in the process to better meet product specifications and timelines. Many companies may also seek feedback from consultants assisting with development.

ADOPTING AGILE PRODUCT DEVELOPMENT PRACTICES

In order to meet current demands and stay competitive, progressive organizations are adopting more agile methodologies across the product development life cycle. Findings from Lifecycle Insights' 2022 Agile Adoption in the Consumer Product Industry Study show that there are two key trends governing the path to more agile practices. These include:

- *Agile adoption and length of pursuit.* While the vast majority of respondents are looking to implement agile practices, it is clear that, for most, this is a recent pursuit.

- *Challenges of adopting agile methodologies.* Companies face a variety of challenges when looking to implement agile processes, especially with regards to having the right technical staff and support.

MATURITY OF AGILE INITIATIVES

The internal and external factors driving the shift in consumer product companies' approaches to development are varied, as illustrated in the previous section. Lifecycle Insights' 2022 Agile Product Development Study also reveals that the overwhelming majority of those companies are focused specifically on adopting agile development practices as part of that shift.

MATURITY OF AGILE PRODUCT DEVELOPMENT ADOPTION EFFORTS

3 YEARS OR MORE — 1%
1-3 YEARS — 2%
A YEAR — 11%
3-12 MONTHS — 61%
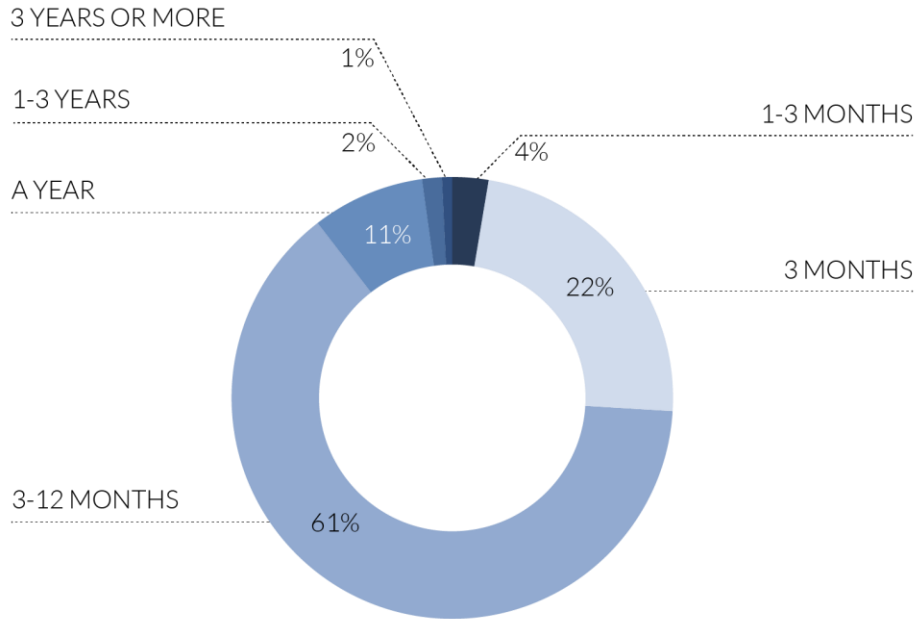1-3 MONTHS — 4%
3 MONTHS — 22%

Figure 3 – Twenty-four percent of the research participants have implemented agile methodology while another 62% are currently implementing it.

Nearly two-thirds (62%) of study respondents indicated that their companies are currently implementing process changes toward an agile product development methodology. A further 24% said they have completed implementation of such a process change, and 10% said their process change efforts are still in the planning phase. Just 4% reported having no plans regarding an agile development approach.

These figures indicate that the consumer product industry has set its sights on adopting agile product development practices as it contends with the drivers of change in that sector. The numbers also suggest that most companies' efforts on that front are immature, as fewer than a quarter of them have completed the implementation process.

The study's findings reveal exactly how immature those agile product development efforts are. Just over one in 10 (14%) respondents have been planning or pursuing a shift toward agile practices for at least a year. In contrast, about one-fourth of respondents (26%) said their efforts have gone on for three months or fewer. The majority of respondents (61%) have been planning or pursuing a change toward an agile methodology for between three months and one year.

CHALLENGES OF ADOPTING AGILE METHODOLOGIES

Despite the overwhelming desire to embrace the agile methodology, respondents in Lifecycle Insights' 2022 Agile Adoption in the Consumer Product Industry Study indicated they are facing several challenges in doing so. The survey highlighted several hurdles that companies currently face.

More than a third of respondents (35%) cited technology and IT support for their design team as the most significant hurdle to adopting agile development practices. It ranked among the top three challenges for 63% of respondents. Many consumer product companies lack the IT tools and support to implement agile practices in their product development process. This explains why such a high percentage of respondents expect it to be such a significant barrier to adoption.

Respondents also expect implementing a project management strategy for agile product development to be a serious challenge. The study reveals that nearly half (45%) of participants identified this as a top-three hurdle to adoption. About a third (30%) said implementing an agile-specific project management strategy was the top hurdle. Implementing agile development requires a deep understanding of project management that many consumer product companies don't possess and have had difficulty acquiring. Those seeking to implement agile practices effectively must find or develop the necessary project management skills.

Finally, the study showed that respondents see finding knowledgeable technical staff and training design teams in the agile approach as additional barriers to agile development adoption. Just under half of respondents (49%) ranked design team training as a top-three hurdle, while about a third (30%) did the same for finding knowledgeable staff. For a company to adopt agile development practices, their engineers must change their working habits. These engineers must be trained in a new set of best practices to be successful, but that training is not always easy to conduct effectively. To fill other knowledge gaps, companies may have to hire new talent with agile experience, but in today's job market, that process may be both difficult and time-consuming.

EXPECTED HURDLES WHEN IMPLEMENTING A PROCESS CHANGE TOWARDS AN AGILE CONSUMER PRODUCT DEVELOPMENT METHODOLOGY

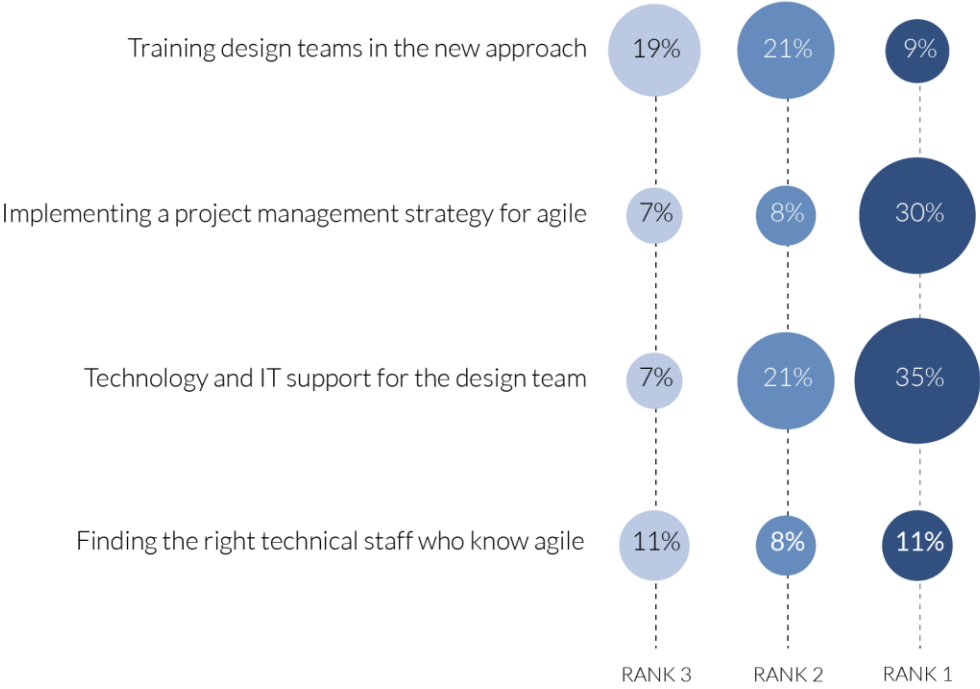Training design teams in the new approach — 19% — 21% — 9%

Implementing a project management strategy for agile — 7% — 8% — 30%

Technology and IT support for the design team — 7% — 21% — 35%

Finding the right technical staff who know agile — 11% — 8% — 11%

RANK 3   RANK 2   RANK 1

Figure 4 – Technology and IT support was the main hurdle when working toward agile product development.

Companies that can find the right technical staff with experience in agile will be in a strong position to succeed. They can use these vanguards to train the rest of the team and, in doing so, forge a path to adopt agile practices across all of product development.

AGILE TACTICS

As consumer product companies shift toward agile development processes, they often use specific tactics to optimize the positive effects of that shift. Study participants shared the agile tactics they most commonly use. The following five stood out as having significant value:

- *Using Kanban boards to monitor tasks and processes.* This visual system keeps diverse teams on the same page about goals and progress.

- *Daily stand-up meetings.* Targeted, strategic core team meetings can help foster solutions-driven collaboration.

- *Use of sprints to assign tasks.* By focusing on fast, incremental goals, organizations can better distribute work and integrate new data.

- *Feedback from customers and stakeholders.* By including feedback across the entire product development process, companies can better design products that satisfy customer expectations and speak to their preferences.

- *Arrive at the minimum viable product in the first iteration.* To get constructive feedback from stakeholders to guide development, teams need to focus on developing a minimum viable product straight out of the gate.

WHICH OF THE FOLLOWING DO YOU FOLLOW IN YOUR COMPANY DURING THE DESIGN AND DEVELOPMENT OF CONSUMER PRODUCTS?

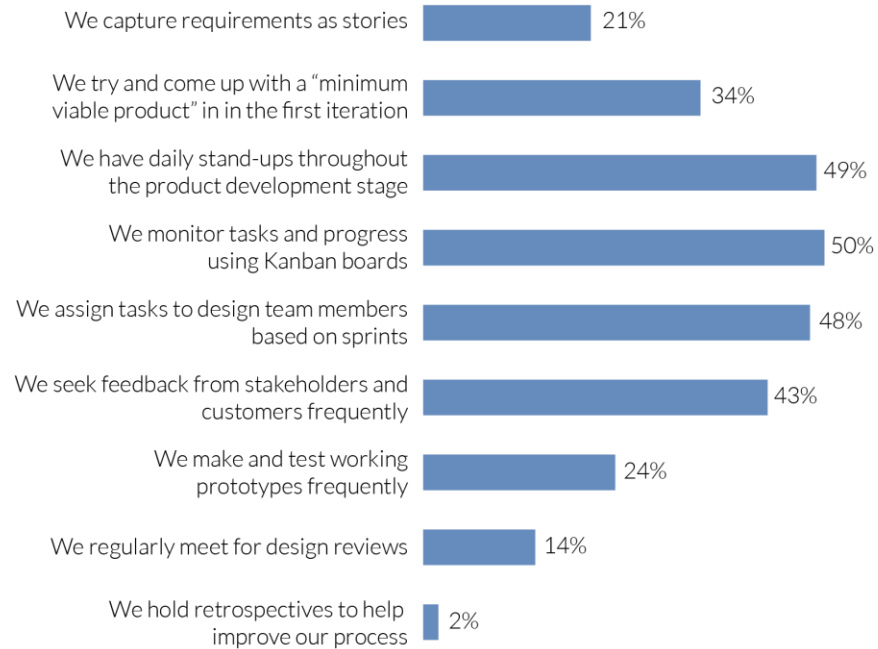|	
We capture requirements as stories	21%
We try and come up with a "minimum viable product" in in the first iteration	34%
We have daily stand-ups throughout the product development stage	49%
We monitor tasks and progress using Kanban boards	50%
We assign tasks to design team members based on sprints	48%
We seek feedback from stakeholders and customers frequently	43%
We make and test working prototypes frequently	24%
We regularly meet for design reviews	14%
We hold retrospectives to help improve our process	2%

Figure 5 – Some of the agile tactics followed by consumer product companies.

USING KANBAN BOARDS TO MONITOR TASKS AND PROGRESS

Companies that adopt an agile product development approach tend to rely on a specific set of tactics to optimize their efforts. One such tactic is the use of Kanban boards. Kanban, translated from the Japanese, means "visual signal," and it is widely considered one of the foundational pieces of the agile process.

Given that context, it is easy to understand why 50% of study respondents use Kanban boards—more than any other individual tactic—during the design and development process.

This visual project management tool allows all members of a team to see the steps of the entire process, as well as their own individual tasks within it. Kanban boards increase transparency and traceability, which allows stakeholders to collaborate more effectively. Ultimately, this improves

efficiency and increases the speed with which products can be successfully developed.

MOST COMMONLY USED AGILE TACTICS

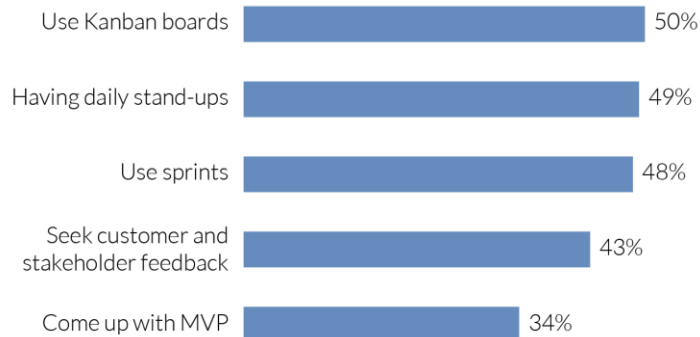|	
Use Kanban boards	50%
Having daily stand-ups	49%
Use sprints	48%
Seek customer and stakeholder feedback	43%
Come up with MVP	34%

Figure 6 – The Agile Development Study reveals that 50% of consumer product companies monitor tasks and progress using Kanban boards.

DAILY STAND-UP MEETINGS

Another agile development tactic consumer product companies often employ is conducting daily stand-ups, or core team meetings. Some organizations may be trying to limit the number of in-person meetings they hold, but daily stand-ups remain popular as a means of increasing productivity.

Nearly half of study respondents (49%) reported engaging in daily stand-ups during the product development process. The nature of daily stand-ups may explain their enduring role in agile development. Instead of acting as "just another meeting," daily stand-ups are strategic gatherings that allow team members to highlight progress, identify roadblocks, and determine the best path forward. They emphasize connection, communication, and recalibration— all keys to the team-oriented nature of an agile approach.

Realizing the full value of daily stand-ups requires leaders to run the meetings effectively. The meetings should focus on tasks critical to advancing the project and the stakeholders responsible for their execution to ensure that progress occurs smoothly and teams and individuals meet their deadlines.

HAVING DAILY STAND-UPS
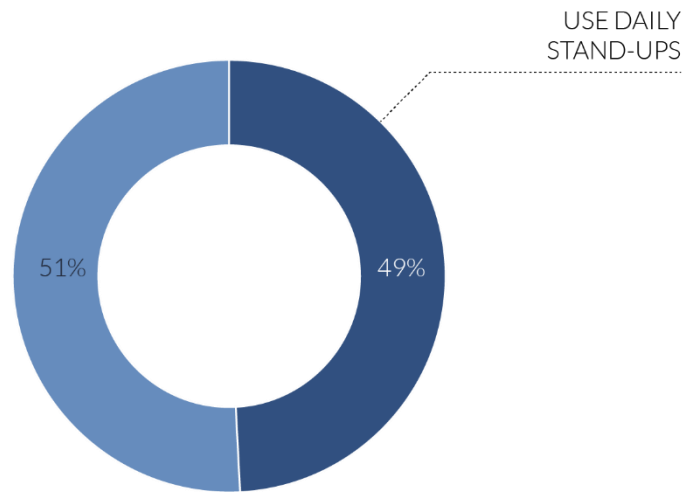
USE DAILY
STAND-UPS

51%

49%

Figure 7 – Daily stand-ups, which are used by 49% of respondents, can help teams accurately assess progress and make course corrections.

USING SPRINTS TO ASSIGN TASKS

The third most popular agile practice reported in the study was using sprints to assign tasks. Sprints are much like they sound: a short, intense time period to complete a task. Managers assign tasks to the team with the expectation that they complete the work by the end of a one-to-two-week period. The assigned tasks are specific, always keeping the end goal of product development in mind. During sprint planning, members of the development team, as well as product owners and stakeholders, share information, expectations, and time estimates about a product's completion. They can then determine what tasks can be completed in each sprint.

As with using Kanban boards and conducting daily stand-ups, about half of respondents (48%) reported using sprints to support a more agile process.
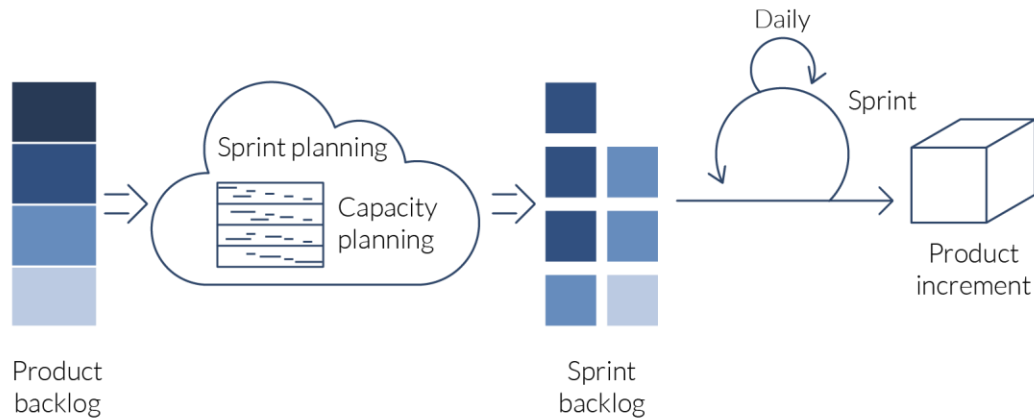
USING SPRINTS TO ASSIGN TASKS

Figure 8 – Forty-eight percent of respondents said sprints help managers track progress and team members work collaboratively towards a common goal.

By using sprints, product development managers can make task assignments more achievable and easily track progress with established goals. They can also modify those goals based on new information. Engineers can voice concerns, and managers can use the sprints to promote a more collaborative work environment.

SEEKING CUSTOMER AND STAKEHOLDER FEEDBACK

Another popular agile practice among consumer product companies is seeking feedback from customers and stakeholders. Companies collect input from a select group of customers at every stage of development, then make design modifications based on that feedback. They also often seek feedback from other internal stakeholders like engineers, quality assurance (QA) professionals, and managers, and from external stakeholders such as consultants, contractors, and subject-matter experts (SMEs).

SEEKING FEEDBACK FROM CUSTOMERS AND STAKEHOLDERS

SEEK CUSTOMER
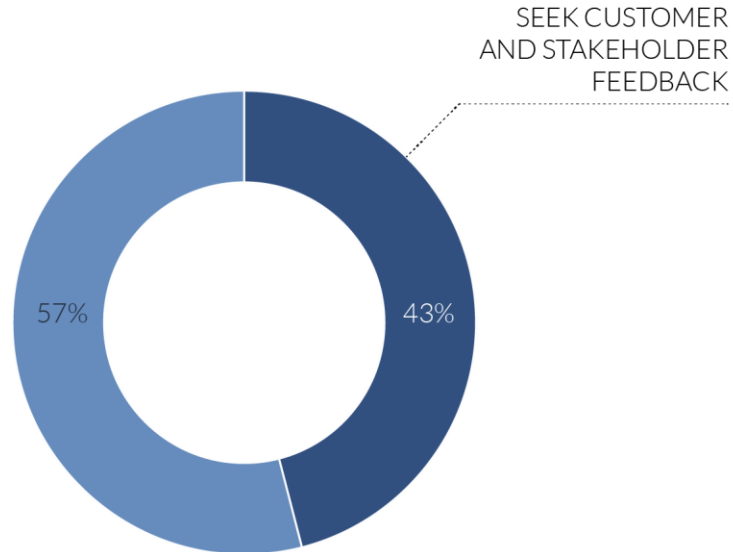AND STAKEHOLDER
FEEDBACK

57%

43%

Figure 9 – Companies can come up with different ways of seeking feedback from their users.

More than four in 10 study respondents (43%) said they seek customer and stakeholder feedback throughout the development process. This tactic brings the product closer to customer expectations and preferences, which is especially crucial given the speed with which those preferences can evolve.

Tailoring products to meet customer needs and expectations can give companies an important advantage over competitors operating in the same markets. Relying upon a variety of feedback from other internal and external sources can add to this advantage by incorporating a range of perspectives with differing degrees of insight into the design and development processes.

CREATING A MINIMUM VIABLE PRODUCT

Many study respondents also noted that, as part of their development process, their teams attempt to create a minimum viable product (MVP) by the first iteration of design. An MVP is a product that contains enough features to satisfy early-adopter customers. Once the MVP is created, the product

development team can then seek customer feedback as they continue to
iterate and improve upon the product.

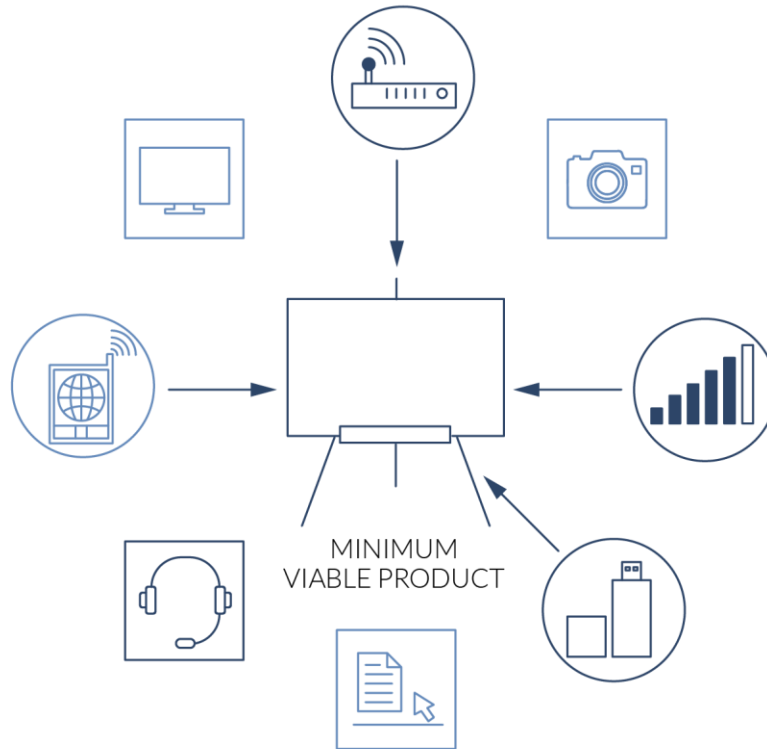## COMING UP WITH A MINIMUM VIABLE PRODUCT

*Figure 10 – Coming up with a minimum viable product is critical for consumer
product companies.*

Just over one-third (34%) of respondents indicated that they try to come up
with an MVP by the first design iteration. Unlike with a software solution,
consumer products require clear definition at the earliest stages of
development. The definition may include specific features, a certain
appearance, or important functionality.

Once those features have been established, the design team builds a
prototype, which can then be used to obtain the feedback vital to improving
each iteration of the product and ultimately finalizing a strong design model.
Companies that can quickly develop and iterate on an MVP are better
positioned to meet consumer expectations, create more competitive products,
and bring them to market more quickly—crucial advantages in an often
crowded marketplace.

SUMMARY AND RECOMMENDATIONS

Today's consumer product companies are looking to adjust their product design and development processes in response to a handful of contextual factors. Many of these companies are moving toward agile product development, an approach that allows for better product design outcomes and greater efficiency throughout the process. Lifecycle Insights' 2022 Agile Adoption in the Consumer Product Industry Study reveals the extent of this shift among SMBs in the consumer product sector, as well as the specific tactics companies use to optimize their efforts.

SUMMARY

- Increased product complexity, variable customer and product requirements, and intense competitive pressures are among the top factors driving shifts in the design and development process among consumer product companies.

- In the face of these drivers, many companies are adopting agile product development practices.

- Companies looking to adopt agile practices expect to experience challenges during the adoption process, including requiring technology

and IT support for the design team, implementing a project management strategy for agile processes, and finding technical staff who can help establish the new approach.

- Companies pursuing agile development practices often use specific tactics, such as using Kanban boards, having daily stand-up meetings, and using sprints to assign and complete tasks, among others.

RECOMMENDATIONS

- Companies that are new to adopting agile for consumer product development should select the right project to pilot the agile methodology practice. Avoid a high-profile project, instead choosing a pilot project with low stakes. Set clear objectives, even if they are limited in nature. Refrain from trying to figure everything out before starting the pilot project. With time, the team will be able to resolve many unclarified items.

- Select project champions from the team and support them throughout the pilot project. Offer team members regular training. Consider bringing in external experts and consultants from time to time to assist the internal champions. Encourage internal meetings to allow the agile champions to share their experiences, successes, and failures. Managers must make sure that the environment is safe and healthy in these meetings. This will encourage employees to be more forthcoming in admitting mistakes. Prepare for course correction. Discard practices that don't work and focus on those that do. Remember, that the goal is to advance agile methodologies in the development process.

- Celebrate success and encourage employees to do more pilots. When transitioning from the pilot, take the time to implement a company-wide rollout during which employees can discuss unresolved issues and come up with a game plan to address them.