



# Agility, Maturity and Innovation

## The Globant Development Experience

**A Globant White Paper**

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[www.globant.com](http://www.globant.com)

# Agility, Maturity and Innovation – The Globant Development Experience

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By

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### I. Abstract

Over the last several years, a number of new technologies and related market trends, including mobility, cloud computing and software as a service, “gamification”, social media and “big data” have emerged, and are revolutionizing the way end-users interface with information technology, reshaping the business and competitive landscape for enterprises. As these companies adjust their business models to adapt and benefit from these changes, they are increasingly seeking solutions that not only meet the rigorous engineering requirements of emerging technologies, but that also engage the end-user in new and powerful ways. We believe this dynamic is creating an attractive opportunity for technology service providers that have the engineering rigor, creative talent, and culture of innovation to deliver these solutions.

Globant has mastered a unique software product’s design and development model (also known as *Agile Pod* model) that combines agility and maturity to drive innovation, while focusing on cost efficiency due to progressive and strictly monitored gains on productivity and quality, namely *Pod Maturity*.

These teams (or *Pods*) leverage the value of our eight Studios, dedicated to maturing emerging technologies and market trends, and providing a constant influx of mature talent and solutions that create intellectual property for our clients.

We have also recorded net savings to our clients of over 30% in average, due to sustained productivity boosts when pods operate at a *higher maturity level*.

These financial and qualitative gains were conceived mastering:

- a) Productivity, quality and innovation incentives, which are tied to client-specific “Pod Maturity” criteria.
- b) Utilization of User Experience and related creative practices throughout the design and development lifecycle
- c) Pod autonomy and purpose, successfully combining talent and process which resulted in record levels of people motivation and retention

This paper explains Globant’s organizational structure, team set-up and processes to drive sustained improvements and an environment of innovation for our clients, while we develop software products for them.

## **II. The Studios: where our talent thrives**

We seek to deliver an optimal blend of design and engineering innovation to harness the potential of emerging technologies to meet our clients’ business needs. Since our inception in 2003, we have believed that while engineering is central to information technology, only by combining strong engineering capabilities with creativity and agility can we deliver innovative solutions that enhance end-user experiences while meeting our clients’ business needs. Our commitment to this differentiated approach is reflected in three core tenets of our company: organization by technology-specialized Studios; emphasis on a collaborative and open Culture; and innovation and creativity in technology and design. To contribute to these core concepts, we have made and continue to make significant ongoing investments in developing an operating environment that fosters innovation, creativity and teamwork, while ensuring a commitment to quality and project discipline.

Our Studios identify, create and mature emerging technology and trends, which are formalized into Practices. The following are our current eight Studio and their current practices:

<b>Studio</b>	<b>Practices</b>
Big Data	<ul style="list-style-type: none"><li>● BD Architecture</li><li>● BD Science</li><li>● BD Custom Visualizations</li></ul>

<b>Studio</b>	<b>Practices</b>
Cloud & Infrastructure	<ul style="list-style-type: none"> <li>• Enterprise Cloud</li> <li>• Managed Services &amp; Security</li> </ul>
Consumer Experience	<ul style="list-style-type: none"> <li>• Portal Development</li> <li>• Content Management Systems</li> <li>• Ecommerce</li> <li>• Web Scalability &amp; Performance</li> </ul>
Creative	<ul style="list-style-type: none"> <li>• User Experience</li> <li>• User Interface Technology</li> <li>• Visual Design</li> <li>• Digital Marketing</li> </ul>
Enterprise Consumerization	<ul style="list-style-type: none"> <li>• Collaboration Solutions</li> <li>• Process Engineering Tools</li> <li>• Talent Development Solutions</li> </ul>
Gaming	<ul style="list-style-type: none"> <li>• Game Design</li> <li>• Game Engineering</li> <li>• Graphics Engineering</li> </ul>
Mobile	<ul style="list-style-type: none"> <li>• Native</li> <li>• Hybrid</li> </ul>
Quality Engineering	<ul style="list-style-type: none"> <li>• Test Automation</li> <li>• Load &amp; Performance Testing</li> <li>• Gaming QA</li> </ul>

**III. The Globant Innovation loop**

Globant pursues a cross-company strategy to ensure innovation is constantly flowing into our client projects.

As shown in the illustration below, innovation begins at Globant Labs, an organization within Globant that specializes in research and development of new technologies – those our research indicates will be relevant in the next six to 48 months. We focus on what technologies and specific talent will be required by the mainstream industries we work with in the mid-long term. Logically, labs are influenced by market research and specific customer innovation needs.

At the Lab, we have an ongoing pipeline of 40-plus projects that range from custom robots, gestural interfaces, machine learning, and many other innovative applications of emerging technologies.

Once these technologies and related market trends attract client demand, such technology is adopted by one of our Studios; the result of capacity planning and Solution building creates a formal practice with mature professionals that are assigned to customer projects.

## Staying ahead of the curve

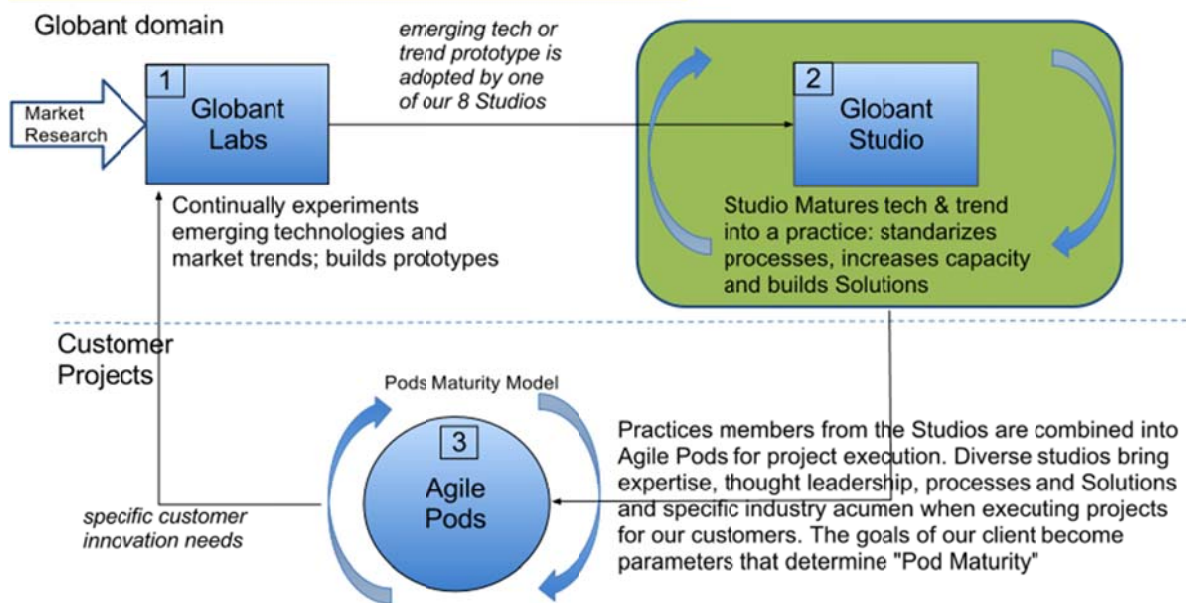


Figure 1: representing the loop of innovation from the labs, into the studios, client agile pods and back to the labs through customer feedback

Naturally, the members of Studios participate in client projects, bringing the experience and solutions that their practices have created, making them available to all our clients. At the project level, this talent, expertise and software frameworks to accelerate product development are leveraged in accordance to our client's specific delivery goals.

*The blend of practice expertise at the service of specific client delivery goals happens at our client projects through agile pods, small teams with the*

adequate talent diversity to carry out at least full feature development, from conceptualization to production (more on *agile pods* later).

#### **IV. The Pod Maturity Model**

One of the important differentiators in Globant's development value proposition is our *pod maturity model*.

As mentioned above, the Globant Studios host a number of related practices, which are combined into *agile pods* to deliver software products.

***The pod maturity model leads into what is the most distinctive and uniquely value-adding aspect of the Globant development experience: an incentive-driven methodology that aligns three goals critical to building partnerships:***

- a) the client's goals, related to productivity, quality and innovation from the *agile pods* engaged to build software products;
- b) the Globant's people (a.k.a. Globers) goals, related to their career development;
- c) Globant's goals, related to maximizing efficiency, utilization, and growing the engagement into a long term partnership.

Next, we will begin looking at *agile pods*, the *pod maturity model* and exactly how it provides client-focused value that no other developer can match.

#### **V. Agile Pods – an Introduction**

Globant leverages its Studio talent to break down work on client accounts into custom agile teams of no more than eight members, known as *agile pods*. Each *agile pod* is responsible for managing a specific part of the feature backlog related to the development of a software product or services platform. So, *Agile pods* are cross-functional and combine talent from diverse Globant practices.

Any *agile pod* has varying levels of technical leadership, product management/user experience, development, QA and creative talent. These teams are configured ad-hoc, and are subject to client talent deficiency, level of innovation, user experience, and technical complexity, envisioned for the resulting product or system.

While the individual leadership ratio of each *agile pod* can vary, in general Globant prefers to have one technical lead in charge of every pod. In addition, a project manager will manage two to four pods while product managers and QA managers optimally manage three pods each. In partnerships using more than five pods, Globant would include technical directors who typically manage five pods, while at a higher-level program managers oversee 10 pods.

The principle is that *agile pods* are fairly self-sufficient to develop software product features or “themes” at a minimum level of supervision, thus minimizing dependency and increasing velocity. In large software development programs, *agile pods* can also have developers, creative and leadership from the client team, as long as the Pod Maturity criteria are the same for all members of the team. Next, we will see more of implementing these criteria.

### **Creating a Pod**

As mentioned above, Globant combines talent from its various practices to create *agile pods*. Let’s set an example to analyze the graph below. A client envisions an innovative, multi-platform product leveraging a gamified digital experience. Let’s picture a private investment banking platform that runs on PC, tablet, smartphones, and provides market data, account, transaction management. For the next phase of product evolution, the bank envisions to strengthen the investment community around their product/brand, allowing users to exchange market insight, participate in investment contests and challenges. The awards may be reduced transactions fees and better positioning on investor popularity leaderboards.

The bank could hire or utilize its own team of product, marketing, technology, build a specification and then find a way to build, using their own resources, or hiring a third party to help with the development. This is the traditional approach: the partner that is supposed to build the software product is not taking part of the initial activities that form the product vision, does not take a role in design. In most cases, the resulting product differs from the vision significantly.

However, by bringing in *agile pods* early that blend talent in from specialized, relevant practices, such as gaming experience, mobile experience and content

management, Globant creates an entire ecosystem that drives a high degree of innovation to the resulting product.

## Globant Practices into Pods

An example of the rationale used when our customer looks for rich User Interface, Gamified and Mobile online experience

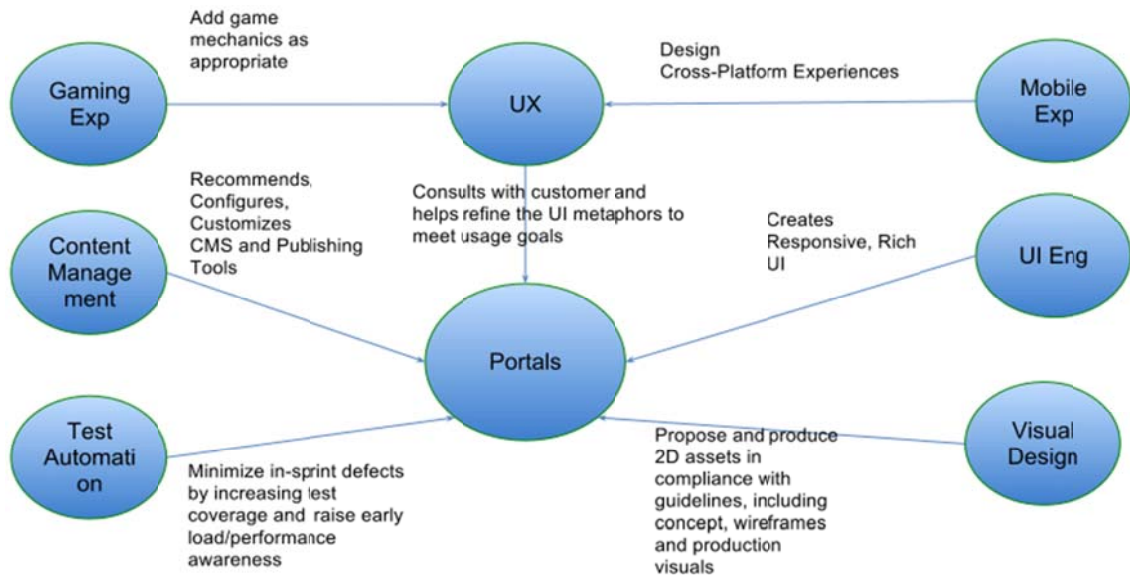


Figure 2: the Studio practices are appropriately combined to build agile pods that deliver the design and the ultimately, the desired product

The *agile pod* has all the ingredients required to be successful, now we need to build an execution model that is aligned to our client goals, short and long term. Let's see how.

### VI. Pod Maturity - How It Works

The Pod Maturity criteria set measurable goals, short and long term. This is what we call “the maturity path”.

Each agile pod is rated according to three focus areas: velocity (how fast it can get work done), autonomy/independence (technical mastery and creative ideas/team innovation) and quality (user experience, design, reliability, etc).

These three criteria are then used to assign a maturity level of 1-3 (with higher numbers reflecting pods that perform higher-level work).



The chart below illustrates a simplified example of the criteria used to determine how *agile pods* are scored in each focus area, leading to the overall maturity level score:

Focus Area	Criteria	Metric Description	Level 1	Level 2	Level 3
Productivity (50% weight)	Velocity	Number of Hours needed to complete a story point	More than 60 Hours	Between 35 and 60 Hours	Less than 35 Hours
Autonomy & Innovation (20% weight)	Technical Mastery (Core team growth), Creative Ideas to improve process efficiency and user experience	Autonomy Level the Pod reaches thanks to Technical Knowledge	One or more approved code reviewers per development areas	Minimum of 40% customer members in the pod are Core members; At least 3 process improvement suggestions per month	At least 1 Pod member is an Extended Architect, 40% Core Members, 8 process improvements, and 1 innovative prototype per month
Quality (30% weight)	User Experience & Design, Technical Quality	Robustness of Development practice, Maturity of Design practices, Quality of Content and Technology	Green static build ratio of 73% or above. Percentage of successful smoke tests 80% or above. Producer reviews 100% success. Product owner reviews approved: up to 2 UX/design rework iterations	Green static build ratio of 95% or above. Percentage of successful smoke tests 90% or above. Product owner reviews approved up to 1 rework UX/ design iterations	Product owner review with no rework on content/UX/Design

Table 1: a simplified example of Pod Maturity criteria

Globant and our clients collaboratively measure a pod’s maturity level according to specific metrics every month, for example:

*a) Productivity*

The first step is to define and what is a *story point*. We prefer that rework be considered within the standardization of what activities are required to complete a point. The number of points attributed to a story or feature is not arbitrary, it is agreed up front with our clients.

Within the first iterations of a project, while teams are ramping up, we observe the volatility between estimate and actual effort, aiming to improve our estimates and refine the story point definition. Globant conducts postmortems and focuses on detecting delays and categorizing issues into intrinsic (fixable by the pod itself) or extrinsic (fixable reconfiguring the *agile pods* structure and potentially recommending improvements at the client operating environments).

Globant helps the client understand what is the baseline in hours per points for Level 1, and negotiate the productivity boosts expectations for the other two levels. Globant generally commits to higher or lower productivity boosts based on the following:

- mutual agreement (Globant and client) on what the bottlenecks to velocity are (e.g. underlying technical architecture dependencies, multiple vendor overhead, client departmental restrictions, etc)
- client flexibility to help remove bottlenecks

#### *b) Quality*

There are multiple approaches to measuring quality. The traditional approach would focus on number of defects and categorize them by type and severity. Globant believes this metric is valid but insufficient, too far along the progress of an iteration, or even worse, when the QA team has got hold of a build.

We prefer to add a faster quality metric to predict the quality of a build and forecast the defects of a milestone. We need a continuous build system with comprehensive automated tests. The *agile pod* always contains test automation engineers, “embedded”, working alongside the developers.

When a group of developers is pushed to increase velocity over its normal capacity, quality suffers. Test automation engineers add value to the stability of the build. As this happens constantly when changes are made to front-end layers or back-end components, the embedded test engineers repair the tests that break, and create additional ones to maintain a high level of test coverage, helping the developers identify and reduce technical debt.

The build system allows for high frequency of builds and test executions. When a build is stable and has high test coverage, running many times per day,

it is easier to derive the level of code quality that the *agile pod* is producing. Therefore one important metric is the percentage of green builds over all builds, over time. Assuming that the level of test coverage is almost 100%, and building every 5 minutes, if smoke tests succeed 80% of the time, we can predict that the team is following good coding guidelines.

Another aspect of quality is user experience and design. This is assessed alongside the client during bi-weekly demos. We rate feature using various UX focus tests and other techniques, which are out of the scope of this document. All these methodologies are within the scope of our User Experience practice.

The technical requirements (performance, availability, security) are of course assessed by iteration and intensified as the build matures.

### *c) Pod Autonomy & Innovation Metrics*

There are various ways to measure the capacity of Pod's ability to self-regulate, complete features and bring in innovative ideas. Globant recommends simple metrics, generally derived from the following categories:

- Structural, e.g. percentage of core members within the pod (the core member is defined as the developer, test engineer, or creative Globber experienced in our clients business, technology stack, communication, specialized in a certain technology or process, and committed to the program); members of the pod who have been awarded architects for the program (this applies to large programs where software architecture is the authority that brings technical cohesion and sound design patterns to software)
- Behavioral, e.g. how many innovative concepts/prototypes has the agile pod introduced to the program within a quarter, how many velocity and quality improvements has the pod introduced, how many relevant solutions, processes or frameworks has the pod leveraged to increase efficiency

## **Agile Pod Maturity Assessments**

Every month and quarter, the Globant Program Manager and Technical Directors overseeing the *agile pods* performs a self-assessment. *Agile pods* are rated according to the *Pod Maturity* criteria, placed in a leaderboard, and submitted to our client for review.

At the end of every quarter, our client audits and decides whether to promote or demote pods' maturities. Our client's decision is based on both auditable data points, and other considerations such as overall quality state of the entire program.

The Maturity level of an *agile pod* only lasts one quarter i.e. if the pod does not fall within the Level 2 or 3 criteria set, the pod will fall back to Level 1 or 2 respectively.

And while the hourly rates for a pod's work go up as the maturity level rises, client experience data shows that in fact, higher-level pods can actually produce savings of over 20% or more compared to lower-level pods. For example, Level 2 pods perform at a minimum 30% higher velocity with twice the velocity predictability of Level 1 pods. In a continuous build environment, Level 2 pods generate at least 30% fewer defects and better architecture, design and higher automated test coverage than Level 1 pods.

It is also worth noting that all *agile pods* are committed to a process of continuous improvement, where they take in client and experiential feedback to get to the next maturity level.

## **VII. Client Experience**

Our client is a public, Fortune 500, multi-national company, and a leading consumer brand. The program involves creating interactive digital experiences for end-users. Globant participates in the concept, definition, implementation and test of new features, as well as the re-engineering of a services backend.

We agreed to leverage the Pod Maturity model and ramped up a number of *agile pods*. Globant used an average of 15-20 pods and reached a headcount peak of 150. The duration of the program was longer than 24 months.

The following describes the experiences throughout the partnership:

*a) Adoption*

Globant walked into a waterfall-like environment , characterized by a sharp separation of design, development and QA roles, heavy focus on producing very extensive business requirement documents, and product ownership in a different division and scarcely available.

Our client team was asked to innovate their current technology platform and create an ecosystem of services to boost user adoption and brand fidelity in the digital space.

During the inception phase of our engagement, Globant participated in creating prototypes for the new product and contributed to selecting the relevant technology framework. The first Globant *agile pod* built a core feature and technology proof-of-concept.

*b) Scale*

As the prototypes were reviewed and approved by senior management, Globant gained the partner role to build the front-end and some core back-end services for the product.

Globant employed a simple method, which we call “mitoses,” to spin up new pods. This concept has two steps:

- Step 1. Globant committed to growing 30% of pod member to “core” level. Being a “core” level pod member relates to our Globber’s level of experience on the client’s technology stack, and the ability required to develop the type of features that the pod has been tasked with.
- Step 2. Globant would then spin up a new *agile pod*, using core members from an existing team and adding new members to the project. Before committing to delivering work, the new members were inducted in the technology stack, processes and methodology by the core members. This introductory phase is what we call a “Sprint Zero.”

While scaling up teams, this very simple concept created efficiencies, and team bonding quickly as new members adapted to client's business domain, and inherent processes and tools. Learning curves and ramp-up issues were greatly minimized.

*c) Pod Configuration – Defining the key communication channels with Client Teams*

Globant ramped up *agile pods* taking the following considerations, which resulted in best practices and roles inserted in the *agile pods* structure:

- *Collaborate with our client's product team:* A Globant associate-level product manager was inserted at the pod level. The Globant product managers would generally service two to three pods and focus on “landing” the feature stories, helping the product managers from the client to select on decisions, acknowledge pod capacity and load, write acceptance criteria, socialize the concept for the product/feature to the rest of the pod, follow up on progress daily, communicate issues and provide solutions to the customer product team, and help the product team “groom the backlog” i.e. *prioritize, or trim scope* as a function of pod capacity, feature value and desired time-to-market.
- *Take ownership of scrums:* The agile project manager would take a couple of pods and run daily scrums, unblock stoppers and coordinate tasks, flagging dependencies; these scrum masters would participate in scrum of scrums to resolve conflicts and fix delays, and also help product owners communicate pod capacity to stakeholders to prevent over-commitments.
- *Add creative roles:* These roles would also “interface” with the creative team from the client, as branding restrictions were very strict and closely monitored by the client creative teams.
- *Ensure high test coverage:* Globant integrated test automation engineering into the *agile pods*, whose main was to “enrich” the build process with an extensive set of “smoke tests.”
- *Enforce a cohesive architectural blueprint:* The technical director, a role overseeing agile pod's technical leads, would manage approximately five pods and focus on ensuring quality deliverables from a technology

standpoint, architecture matching to client expectations and consistent across pods, and component re-use.

- *Add overall operational oversight:* A program manager for the operational management of the pod, logistics, facilities, and communication with higher level stakeholders.

Since this was a multi-year, and large program, Globant also organized monthly steering meetings with client executives to review:

- velocity (productivity)
- quality
- features delivered (value)
- risks and issues
- maturity level of each *agile pod*, velocity, quality and innovation leaderboards

These meeting helped align high-level program goals at the higher levels of both companies, and helped Globant make an investment.

#### *d) Implementation of Pod Maturity*

All new *agile pods* where rated at Level 1 (entry level). A Pod Maturity criteria sheet was built similar to Table 1. Globant agreed to start the Pod Maturity rating as of the third sprint for new pods, to allow for stabilization of velocity, and team bonding. To support Pod Maturity, Globant implemented the following steps:

- *Pod identity:* Each pod was given a name, and an avatar. Common values were created for pods and an internal micro-site created for the program.
- *Program branding:* Leveraging our client’s powerful brand image, Globant co-branded our facilities to exalt the partnership.
- *Development environments:* Globant and our client set up a site-to-site VPN to work off the same code repositories and be part of the same build process, minimizing delays and unnecessary coordination overhead .
- *“Gamification” of the team environment:* Globant added an element of play to instill collaborating behaviors; here are some examples:

- pod maturity leaderboards
- celebrations when agile pod members are promoted to core member
- celebrations when agile pods are promoted to higher maturity
- “shootings” when builds are broken, fun ways to put a spotlight over members that break the continuous build
- velocity competitions with awards
- quality competitions with awards
- pod innovator of the month, quarter, etc.

#### *e) Training Tracks*

Globant implemented specific training tracks. The tracks were instrumented and managed by the leads of the following practices:

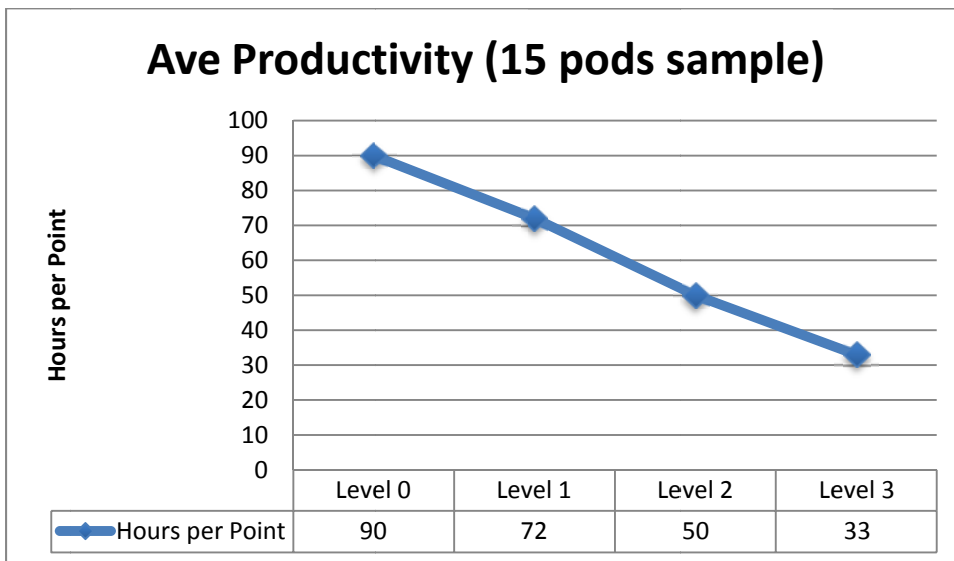
- *Product Management*: Program scope, which consists of vision, feature review, roadmap
- *UI Engineering*: html5, css3, responsive design
- *Mobile Engineering*: hybrid development (native, html5)
- *Test Automation*: specific tools and technology set for the program
- *Client Services layer*: APIs, protocols, etc.
- *Core member track*: i.e., how to become core pod player: expected behaviors, our client’s business, leadership, peer review, client technology stack, environments

#### *f) Productivity Results*

The following table shows the average productivity increases measured as reduction of hours to complete a story point. Level 0 is for comparison, and depicts velocity metrics of teams working in similar technology and product not following the agile pod model. Level 0 alludes to staff augmentation contracts where the customer sets all process rules constraining vendor independence and creativity. The data was collected after two quarters, once Globant had enough samples at each maturity level. The amount of effort, in this case, takes into account total production time: time to define, develop, rework, and test within a sprint.



The metrics average data collected over the first six-month period, in man-hours:



We can calculate the velocity impact associated to rate incentives in the following tables, compared to projects not following the Globant pod maturity (Level 0):

Maturity level progression *	Rate Incentive (cost per hour) *	Velocity gains (hours per point) *	Net cost impact (savings) *	# of Pods at Maturity
Level 1	10%	18	12%	7
Level 2	25%	40	31%	6
Level 3	35%	57	51%	2

**Program Level Cost-Efficiency 25% 15**

\* compared to Level 0 (not an agile pod)

As seen in the table above, the rate incentive within this engagement model drove to higher marginal gains in velocity, once pods reached higher maturity. At the program level, the 15 pods measured rendered a savings impact of 25% while performing at higher quality.

The *agile pods* were rated at the end of each quarter and the rate incentive only lasted for the following quarter, which means that:

- only *agile pods* that had attained the maturity level during the previous quarter deserve the rate incentive during the current quarter; and,
- *agile pods* that perform at a lower maturity level fall back to the corresponding lower level and lose the incentive the following quarter

*g) Product Quality, Innovation and Team Dynamics Results*

We found that progressive pod maturity led to fewer defects at the end of the sprint, while working at higher velocity. The postmortems provided us with the following insight:

- Pods became more cohesive over sprints i.e. a strengthened sense of self-regulation allowed for autonomy whereby they would either improve or eject non-performing team members.
- The incentive to innovate on better processes increased velocity and escalated blocking issues earlier, helping the technical directors and program manager act upon dependencies and minimize bottlenecks that would lower overall efficiency
- Pods gained a better understanding of their own capacity, how many stories they could deliver per week, learned to better the estimates and became more predictable; a big jump in estimate accuracy happened when transitioned from Level 1 to Level 2
- Pod members embraced the fact that there is a career path within the program, eliminating the need to jump onto a different project or leave Globant; overall the program was low in attrition (lower than 10%) over 24 months.
- Pods submitted their ideas, prototypes and accepted the continuous challenge of staying up in the charts. Those pods lower in the velocity or quality leaderboards quickly started to rank higher on the innovation leaderboard proposing new ideas and improvements to processes, tools, and frameworks, and showing that they could turn their reality around; obviously helped by their senior technical directors .
- Due to the level of feature autonomy and incentives to improve, we found that Globers that would not normally step up to the plate and propose ideas were now more open and communicative, adding to the overall spirit of collaboration that we envisioned.

**Overall, the *agile pods* created the inner team dynamics that fostered drive for improvement. We used lots of “carrots”, team regulation strategies, game dynamics, peer pressure, and no sticks.**

## **VIII. Conclusion**

Globant has created an entire cross-company ecosystem where expertise from every part of the company is brought together into small teams called “agile pods” that combine diverse skillsets to provide clients with efficient development of the latest technologies. Our pod maturity model allows us to use qualitative metrics to collaboratively agree with clients on the maturity level and associated pricing their agile pod warrants.

Maturity levels are regularly reviewed to ensure that agile pods are constantly focused on improvement and also that pricing levels fairly reflect the output of the agile pod. In this way, Globant maximizes the value its dedicated practice areas can deliver clients by eliminating technology “silos” and ensuring that specific developmental skills, such as mobile platform development, are augmented by other necessary skills such as visual design and delivered in a fair, timely and measurable manner.