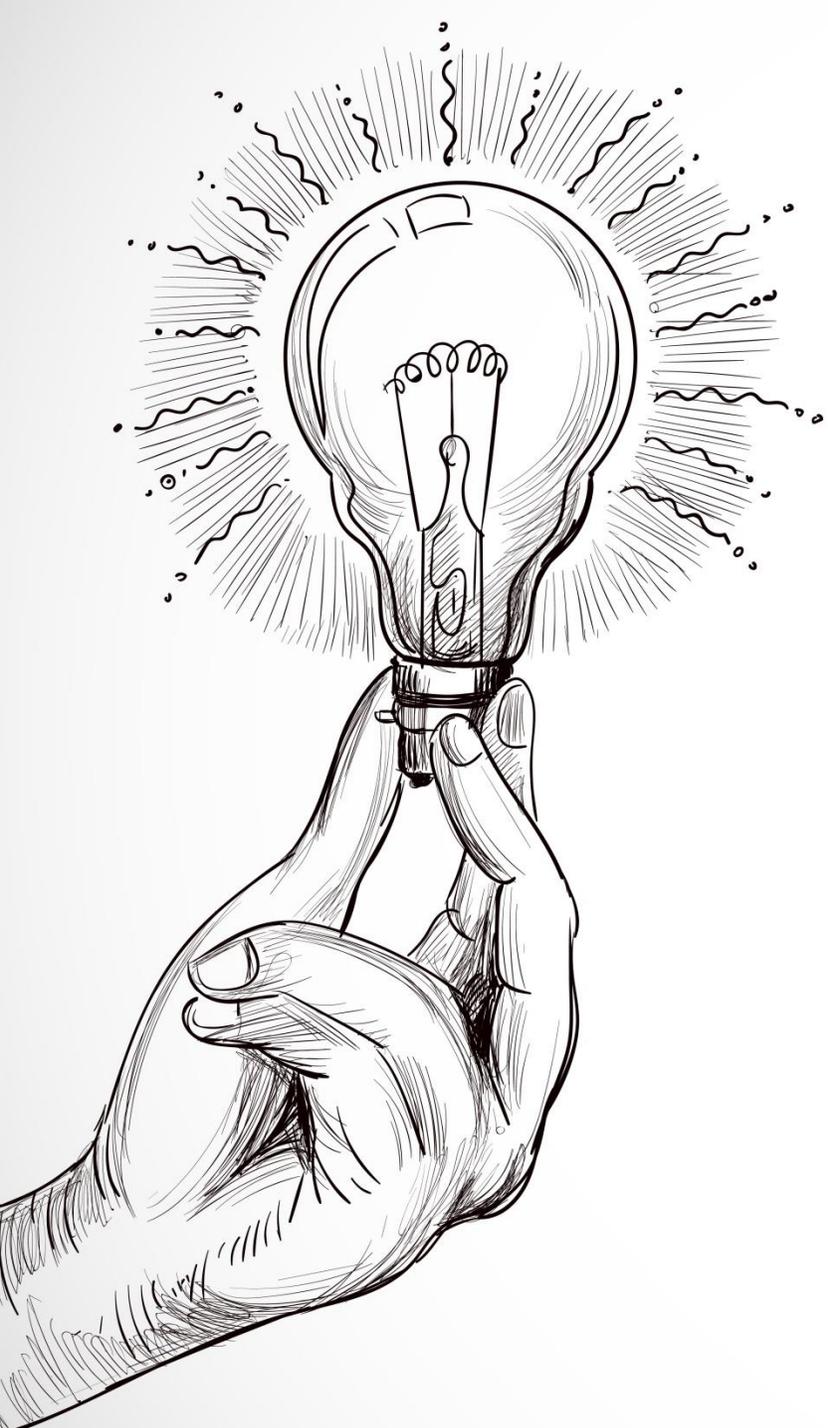


PRODUCT CREATION PROCESS

*The dancing star vs the leviathan:
A cautionary note for change-happy founders.*





“One must still have chaos in oneself to be able to give birth to a dancing star.”

Friedrich Nietzsche



Poor process, unqualified personnel, logical errors are examples of ineffective chaos which gives birth to the leviathan – the embodiment of ‘disorderly’ chaos – instead of a dancing star.

GST has partnered with more than 350 founders across more than 50 industries to get the product development process right so as to give birth to dancing stars without creating leviathans.

350+
founders

50+
industries

MYTH 1: DON'T BEGIN WITH THE END IN MIND; JUST GET GOING AND THE MUSE WILL FOLLOW

Creating a product charter or vision document is a good way to fight against the urge of starting without a clear concept of the end product.



Checklist to assess the sufficiency of the product vision document

PRODUCT CONCERNS

- Key user workflow based on different roles
- Key user interactions, key transactions
- Role based access control and user permission
- Expected user volume, application performance and uptime
- Regulatory compliance
- Support / customer success interface
- Usage data and dev-ops interface

PROCESS CONCERNS

- Repeatable and effective development process
- IT tools to support the adopted development process
- Minimum viable process for minimum viable product
- Team roles and responsibilities, specialization and collaboration
- Development metrics to be established
- 5-year staffing plan

Availability of a minimum vision document that satisfies the checklist above is one of the most critical points of leverage in an R&D organization. The non-technical founders will often feel lost by the terminology of product development. Our engagement structure is designed to provide experienced product management talent to ensure proper planning thus saving millions in incentive equity and compensation.



MYTH

Get going – planning holds you back



PROBLEM

A hasty start leads to significant and intractable technical debt.



RESOLUTION

A charter and vision ensure you are heading the right direction.



RECOMMENDATION

An extra meeting or two will pay off in the long run.

MYTH 2: DON'T CONTROL OR FOLLOW A PRODUCT ROADMAP; LET THE WIND GUIDE YOU

An organization is made up of individuals pursuing a common aim to be defined. For an R&D organization, this is a product roadmap that specifies the sequence for the product vision to be realized.

The dancing star is at the intersection of these competing tensions between the key constituents of the company.

Work with customers and the tech team to find product market fit, shield engineers from sales, and help the engineering team focus on addressing the important strategic items one iteration at a time. The best way to achieve this is through a well-controlled roadmap.



Minimum components of the product roadmap process:

- Product roadmap meetings at least every quarter
- No more than 3 sprint cycles in one unit
- Each module should have a swim lane and reliability having its own lane
- An 'owner' in the company responsible for versioning the roadmap



MYTH

What customers tell needs to get in the product



PROBLEM

Disorder and chaos created by unilateral product direction changes and quick pivots due to customer feedback. The product is starved of the valuable input on the part of the company.



RESOLUTION

A roadmap is a device that forces consensus when used correctly.



RECOMMENDATION

Implementation of the GST product roadmap process and periodical surveys of the constituents of the company for understanding of the roadmap and having 'significant input'.



MYTH 3: ESCHEW PROCESS; YOU'RE TOO BUSY FOR IT

Good process on its own will not birth the dancing star, but bad process will surely unleash the leviathan.

The right processes in the R&D organization can reveal bad inputs quickly and ensure that the elusive nature of R&D can be benchmarked and compared to best practice output from other organizations.

There's no time not to create and follow processes. Getting the processes right has tangible ROI.

Minimum requirements for a good engineering process include the following:

- Daily standups or check-ins within teams with agendas and minutes
- Sprint review meetings with minutes
- Sprint planning meetings with minutes
- Tracking the success or failure of each sprint
- Measurement of development velocity
- Quick fix engineering (QFE) on its own process
- Clear ownership and ticket progress
- Minutes tracked on every meeting with attendance, description of barriers, action items with owners and outstanding action items from prior meeting
- Non-conformance report for every post-production defect to link to (a) ticket(s) and a root cause analysis



MYTH

The team is too thinly staffed and can't spend time on meetings



PROBLEM

The feeling of firefighting and the need to keep going faster compounds into a vicious cycle.



RESOLUTION

Make time for good process.



RECOMMENDATION

Implement good engineering processes and audit these for completeness monthly. Build a management information system.

MYTH 4: DON'T TEST YOUR TALENT; IF THEY LOOK GOOD, THEY ARE!

There is an extreme potential for chaos when hiring the technical talent. One way to get around this is testing the talent during the hiring process.

Unlike early stage companies, experienced organizations have the capabilities to hire inexperienced talent and train them into productive team members.

Poor technical hires will not only result in a more expensive and less reliable product output but they will also turnover with higher frequency.



The following minimum requirement set is recommended:

- Resume review of past employment and projects for technical knowledge
- Technical inspection of past work product
- Technical assessment
- Fit assessment for not only the languages and product type planned but also with the rest of the product vision document



GST assists clients in hiring right engineers to increase the probability of success.



MYTH

Engineers that look like engineers are good engineers.



PROBLEM

Hiring engineers lacking experience results in fatal architectural flaws.



RESOLUTION

A rigorous onboarding process involving technically proficient talent evaluating the talent.



RECOMMENDATION

Get trusted advisors capable of evaluating your team and new hires to help set up your assessment process.

MYTH 5: DON'T SEGREGATE ROLES; FULL STACK MEANS FASTER, FASTER MEANS BETTER...

Role segregation is essential for any robust engineering organization. The 'full stack' myth is mostly unique to the early stage company and has conjured the leviathan in countless companies.

'Dancing star' products are the result of good engineers working with good processes on good customer user stories that come from valid and important customer requirements.

Role segregation determines the company's growth and ensures that the proper processes are more likely to exist and be followed.

GST recommends that all teams have (a) person(s) in each of these necessary roles of a high functioning product engineering team:

- **Product Manager**
- **Solution Architect and/or Software Architect**
- **Technical Team Lead**
- **Business analyst**
- **UX/UI**
- **Developers**
- **Web services and microservices**
- **Database Developer or DBA**
- **QA**
- **Technical documentation**
- **Deployment**
- **Security**
- **Performance and dev-ops**
- **Infrastructure**



MYTH

Full stack development is the way to move fast.



PROBLEM

Reliance on full stack engineering alone as a product engineering process strategy results in poor process adoption, product module misalignment and more.



RESOLUTION

Allocate your team to all the necessary roles of a high performing R&D organization.



RECOMMENDATION

Educate team members on the likelihood of adding new team members into specific roles as the organization grows and the need for them to segregate their work into work streams in line with those roles.

MYTH 6: SCRUTINIZE THE INPUT COSTS FOR THE PRODUCT, NOT THE OUTPUT COSTS

Product development is a difficult thing to measure. Things like engineer salaries, hourly costs, code language licenses, and the like are inputs to the product development process and can impact but don't necessarily determine the output cost.

Input quality, rather than cost, has a much larger impact on output cost than the input cost.

When a founder focuses on the wrong metrics, the results will be disastrous.





MYTH

Look for lowest hourly cost OR look for 'perceived' best quality i.e. in-house 'geniuses'



PROBLEM

Focus on input cost can lead to wide variations on output cost. Misidentifying input quality leads to the same negative outcome.



RESOLUTION

Determine a measure to identify and track output cost and quality. Monitor these over time or find a partner like GST to benchmark that data.



RECOMMENDATION

Using the user story point as a consistent measure of R&D organization output is a useful way to normalize cost and track it over time.

Track output quality by pre- and post-production defect density, the trends of root causes in the non-conformance reports of post-production bugs. These will identify degradation in output quality over time.

MYTH 7: MAKE CHANGES OFTEN

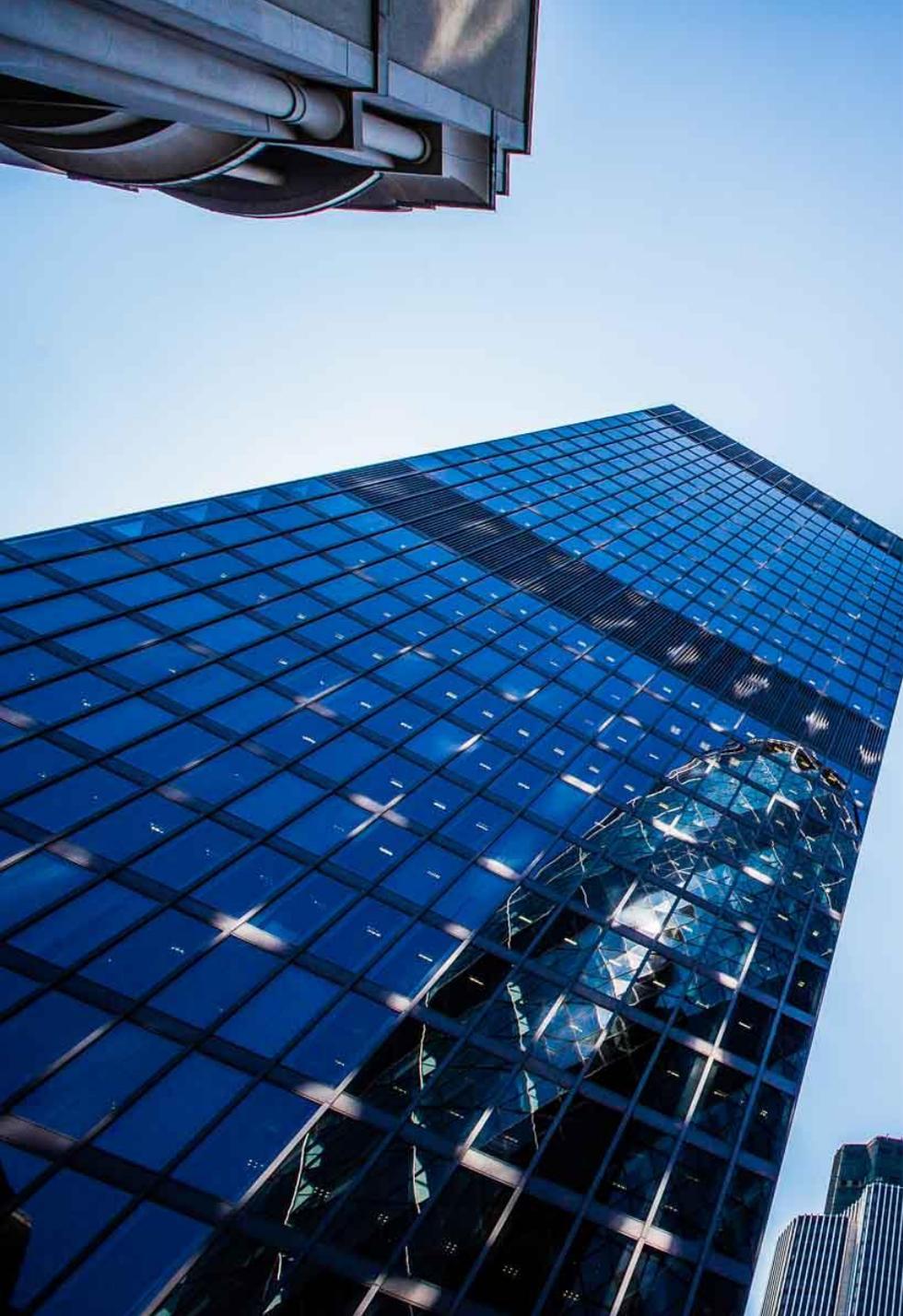
As a practical rule, don't change.

We created a product for enterprising founders to assess whether the company is optimized on output cost or not.

Most B2B SaaS founders with \$500K in R&D spend could free up \$200K of annual savings through an assessment.

That benefit is a force multiplier for an early stage company because it results in better capital efficiency and more margin.





MYTH

I must change because I'm experiencing chaos



PROBLEM

Misdiagnosing the chaos peculiar to product development as disorder variety results in disorder. Change always introduces disorder.



RESOLUTION

Inspect the chaos and weigh the disorder introduced by the change against the potential improvement. Only change if all other processes are in place and working.



RECOMMENDATION

Change the R&D organization slowly.

ABOUT GOLDEN SECTION TECHNOLOGY (GST)

Houston based global software company that supplies critical growth and R&D services to Technology and Tech- Enabled Businesses.

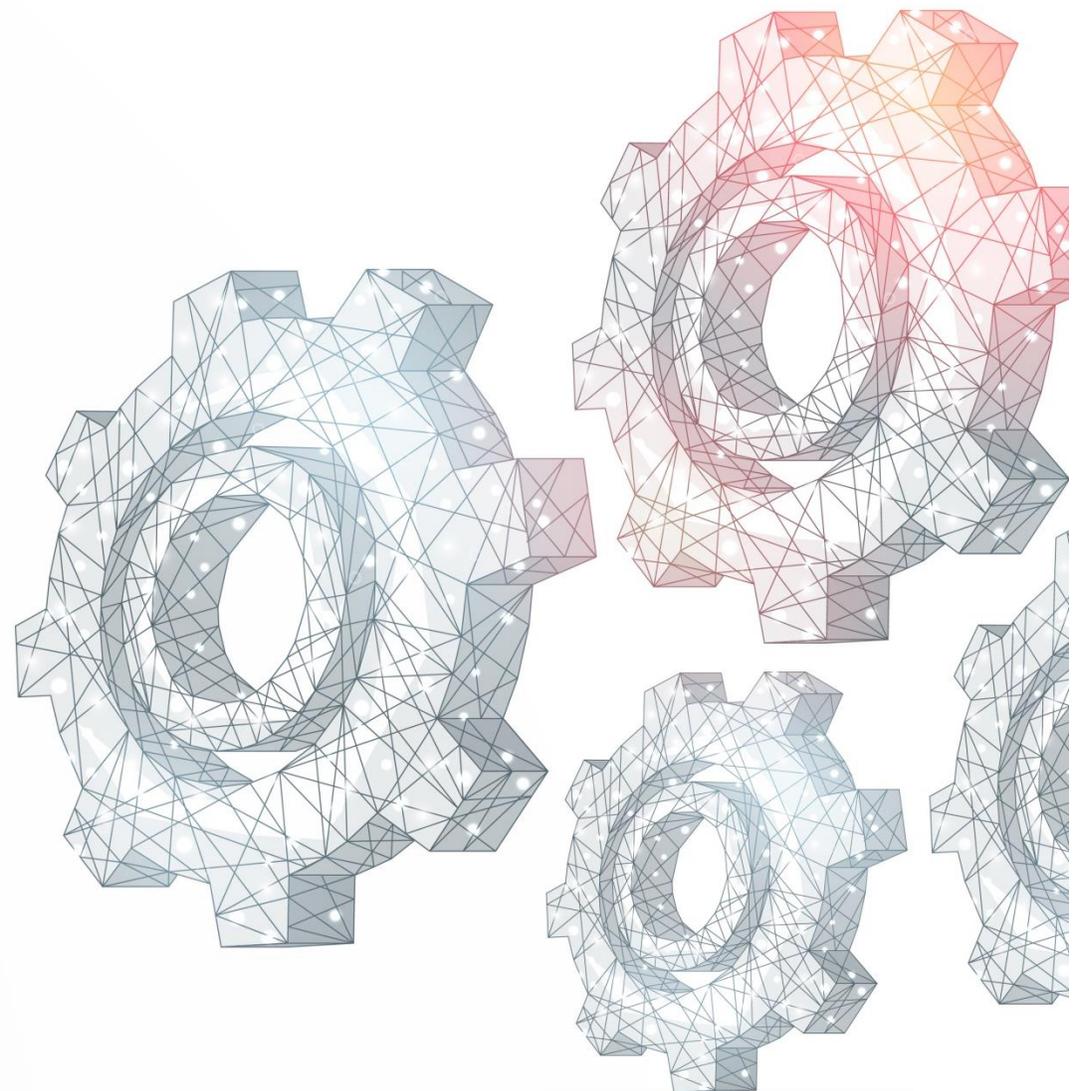
Proven record of stepping into complex technical and operational environments to improve profitability, optimize cost structures, and promote strategic growth.

Value created in over 300 companies throughout 50+ industries by committing talent, capital, and strategic partners to guide and augment the innovative efforts of our clients.

GOLDEN SECTION VENTURES (GSV)

Software equity fund investing in the seed stage of B2B SaaS with a mission to help founders grow capital efficiently to the exit sweet spot (\$5 to \$15M in ARR).

More than 60 years of SaaS operating history and experience selling B2B SaaS (more than \$300M in sales) and scaling large complicated technology products.





GOLDEN SECTION
TECHNOLOGY

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Current portfolio gstvc.com/portfolio

Thoughts on the industry and guidance to scaling B2B SaaS founders and teams at GST Labs – labs.gstdev.com