INTERNATIONAL JOURNAL OF CONTINUOUS BUSINESS IMPROVEMENT

2018 Number 3

INTERNATIONAL JOURNAL OF
CONTINUOUS BUSINESS IMPROVEMENT

Authors: Please refer to the website for information on submissions.

The International Journal of Continuous Business Improvement

2018, Number 3

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How can we speed up the process of agile software development becoming the standard project approach in the digital agency industry?

Kaspar Hansen

The agile software development approach is more or less the standard approach which new digital startups are following and a lot of the established companys internal IT departments who hasn't switched yet, are considering, or are in the process of doing so.

However, the picture is slightly different for those of us who work in the digital agency industry. Of course, I can only speak for myself, but the majority of projects still seem to be fixed scope, budget and time projects run with what is known as the waterfall project methodology.

At the same time, we, in the digital agency industry, have been trying to nudge clients towards running projects by the agile software development approach for quite some time now, but so far that has mostly only resulted in a ‘in-between’ solution that takes the foundation of a traditional waterfall project and applies some of the elements from the Scrum framework on top of it. This is a step in the right direction, but it’s not good enough.

We would fool ourselves and the clients if we called such a project ‘an agile project’. In effect it has nothing to do with agile, as the only thing we have applied is a fixed set of meetings on top of a locked statement of work (fixed scope, time and budget), which still need to be signed and approved before the project starts.

We need to strive for more.

They talk the talk

What I’ve experienced is that clients are buying into the idea of ‘going agile’ in the sales phase before anything is signed. I think the project owners and the project managers who drive the projects forward, buy into it because they all love the idea of ‘being able to change direction and priorities during the project’, but when push comes to shove most of them back out.

In the modern complex digital landscape through which most, if not all, companies are navigating, being able to ‘change your mind’ would seem to be the right approach.

However, when they then ask for funding to realize the project, they can't answer the questions from the project sponsor: 'What will we get?', 'What will it cost?' and 'When can it be delivered?' The project owner can't answer these questions because they contradict the agile software development way of thinking and working.

The three questions could be summed up into one: 'What makes you think the agency will spend our money in the best way possible?'

This is where the project is approved to run 'agile' or waterfall or turns into the 'in-between' solution. Does the project owner trust us enough to say 'yes' to the project sponsor – most likely risking a good deal of their reputation within the company?

They need to trust you

If you have a history with the project owner, project sponsor or someone on that level inside the company, that could improve your chances of getting them sold on 'agile' as they will already have a point of reference to you and therefore will be more likely to trust you. However, if this is your first project with the client, then you might struggle. You have to build trust; often that takes more than a fancy PowerPoint (and so it should!).

Going from the waterfall methodology to the agile approach transfers risk from agency to client. I believe that clients are afraid of taking ownership of that risk. Therefore, the real issue is this: How do we as agencies help the client mitigate or minimize the risk?

I’m sure that if we as an industry focus on answering that question, then we could speed up the process of agile software development becoming the standard, and the supporting frameworks the of the agile software development approach to bethe preferred project methodology our clients would default to.

The risk

The risk I’m talking about consists of three parts: scope, time and budget. In a waterfall project the agency takes ownership of those three elements, whereas in an ‘agile’ project, that ownership lies with the client – and that can be an uncomfortable situation for the client.

The reason why the risk transfers to the client are that in an ‘agile’ project the client owns the decision on what to build (the scope) and in what priority. Obviously the clients are heavily assisted by the agency, but ultimately the decision is with the client. The client can change the scope at any time they please.

Because the client owns the scope and can change it during a project, the timeline is flexible and the client is responsible for making sure the timeline is under control.
As the client owns the scope and the timeline, it makes sense that they are also responsible for staying within their internally agreed budget.

There is of course a relationship between the three parts, as it's very difficult to change one without affecting the others; for example, any change to the scope will most likely reduce or increase the budget and push the delivery (timeline) either back or forward.

In a waterfall project, all the above would have been agreed before signing the statement of work. Nothing would be flexible and all the risk would reside with the agency. Therefore, I believe the product owner fears that the agency will end up spending all the budget they get from the project sponsor on something that isn't good to launch or hasn't created enough value.

Mitigation

First of all, I don't think we can remove all of the risk. Agile software development is risky – there is no way of denying that. You don't know what you will end up with; that's why you can't answer the three questions previously mentioned.

However, to mitigate some of the project owner's fear, I would split the project up into chunks so they feel that it will be easier to digest. Treat it contractually as separate projects. It could look like this:

Discovery/research phase

Let's assume this is your first project with the client. This phase, then, is your first real shot at proving you are a trustworthy partner.

This phase does not per se need to be agile. It could easily be a timeboxed phase with a fixed price, as most of the activities will be fixed workshops and limited activities, where we know more or less exactly how long each will take.

If you want to do well here, you might even invest in this phase by spending more time than you get paid for, as this phase could turn the tide. Going at it here almost counts as sales work, as you are more than likely to discover some opportunities neither you nor the client thought of before you started.

The outcome is a list of potential things to build or do. This list should be prioritized by the client, for example in a MoSCoW workshop. At this point it could be fairly high-level items. You should start by treating these as individual projects or bundling them up. I've had good experience with bundling a few together and labelling them as an MVP.

Build an MVP

By now you should have gained a bit more trust with the client, so the time has come for really pushing the 'agile' bandwagon. Of course you should assess whether the project is still best suited to the agile software development approach, but let's assume it is.

The MVP should be – the name kind of gives it away – the minimum viable product the client can launch with. That automatically cuts away lots of the fat on a project. By 'fat' I mean everything that does not support the main purpose of the build.

Contractually you sell your team and a vision of what you intend to build, for a fixed period of time. The 'trick' is select as short timeframe as possible, but make sure you go enough time to deliver value. The vision would only include whatever your MVP contains, or a part of if, and you could go as 'low' as billing per week, which both the project owner and your own financial people would appreciate.

Contrary to what you might reasonably think, a smaller MVP is preferable if you are looking at a long-term relationship with the client. Launching something useful fast is like adding rocket fuel to your steam train. The client will PRAISE you for a quick lead time. They will see the benefits of 'agile' and they won't have taken a huge risk, as given the smaller nature of an MVP it most likely won't have burned all the budget. You will soon find yourself with a client that loves you and the way you are working.

Remember the investment in the discovery/research phase? Now it's time to cash in.

The following releases

From here on you work on the client's top-prioritized backlog items. Again, to mitigate fear of the budget running wild, feed the project owner with small chunks all the time. How often depends on the size of the project, but I tend to prefer a monthly release. It's all about getting the client involved: produce → demo → deploy. This will get them excited and they will never go back to the waterfall methodology. One size certainly does not fit all

Of course this won't work with all clients: you could face a client who operates under fixed procedures and regulations. For example, I've observed this with most digital projects owned by government departments.

A project where the RFP dictates a certain methodology is also more difficult to turn around, and there may be a good reason for the client to prefer the waterfall methodology. Agile software development approach is certainly not suitable for all projects or companies, and its is important to mention that intention with the agile software development approach, is only to use it for what is meant for; software development. Therefore, it would be useless in to try to apply it to all phases of a project.

However, it would not be unheard of if future projects for those types of clients turned out to use the agile software development approach … after you have gained their trust.

About the Author

Kaspar started out as a flash developer who went on to flirt with design, before spending the last 8 years in project management. His expertise are in managing the space between the client/PO and the production team. Kaspar is based in Denmark and is currently the Senior Digital Producer at the award winning Lab digital agency in London. You can reach Kaspar via their website: **http://lab.co.uk**

How to Master LinkedIn for Marketers – Part 1

William Arruda

I have a soft spot in my heart for marketers. I spent the first phase of my career in corporate marketing, and even though I left that world years ago to start my own personal branding business, I still go out of my way to connect with marketers. Whenever I deliver a keynote or learning program to marketing professionals, I feel I'm at home with "my people." That's why I love to help marketers with their personal branding … and in particular with their LinkedIn profiles.

When you work in disciplines like social media marketing, advertising, market research, product marketing, SEO, etc. the bar is set high. Everyone assumes that if you're good at marketing products, you must be good at marketing yourself – and that means your LinkedIn profile will be stellar. Some marketers really have mastered LinkedIn, and that sets the bar even higher.

In this first of two posts in my LinkedIn for Marketers series, I share with you a few key things you need to know about marketing yourself on LinkedIn and what you can do to make the most of this powerful personal branding platform.

I also share some of my “super special secret tips” – they’re wildly impactful things that few people know.

Here’s how you – as a marketer – can do what you’re best at to build the perfect LinkedIn profile:

Make it a marketing campaign!

When you approach crafting your LinkedIn profile this way, you put into action all the brilliant marketing skills you’ve learned throughout your career. And when you’re building any campaign, where do you start? With objectives.

Set Objectives

The first step in a campaign is to define and document your goals. Answer these questions:

- How are you going to use your LinkedIn profile?
- What result are you looking for?
- How do you want the impact to manifest itself?

Assess Your Current Status

Then you need to establish a baseline by assessing where you are right now. This complimentary LinkedIn quiz created by CareerBlast.TV (I am a co-founder of CareerBlast) will help. It will identify areas of strength and those where you need to focus some effort. Do this before moving on and pay close attention to questions 1 – 12. Your responses to these questions will help you build and prioritize your profile plan.

Next up in your marketing campaign is designing the message and audience.

Define Your Audience

Take some time to get clear on who'll be checking you out and who you want to attract and impress. Write for that audience. And remember, although your LinkedIn profile should be based in authenticity, it needs to position you for future roles. So consider those decision makers that will help you move forward in your career as you define your audience.

Most people write just for "that audience," and they miss one critical reader of their profile: Google! Remember that your LinkedIn profile has value beyond the LinkedIn platform. You want to make sure people who are googling you – or what you have to offer – can find you. We'll talk more about ways to do this later.

Master Your Message

Get clear about what you want to say and be sure to make your offering relevant and compelling to your audience. Record your answers to these questions:

- What's my offering?
- What separates me from everyone else who shares my job title?
- What unique value do I create when I do what I do?
- Where do I want to go next in my career?
- What are the essential keywords I want to be associated with?

Identify the Tone

What elements of your personality do you want to shine through? What are your brand attributes? If you're not sure, enlist the people who know you to provide feedback about your brand attributes and strengths with 360Reach – a personal branding feedback tool my company, Reach Personal Branding, created (this is not a sales pitch! 15-day passwords are gratis!).

Your 360Reach results will reveal the words people would use to describe you. The great part of this tool is that you use the same feedback form your respondents use to describe yourself. So you will be able to do a comparison between how you see you and how others see you. You'll also be able to identify where this is congruence between these self perceptions and the perceptions of others.

Now it's time to put all that planning into action and build your LinkedIn profile. In this post, I'll focus on "the big three," your Headline, Headshot and Summary. Then, we'll talk about filling out the rest of your profile. In my next post in the series, I'll focus on helping you make your profile more credible and differentiated.

So, let's get started.

Write a Winning Headline

As you well know, the purpose of an advertising headline is to grab viewers' attention and get them to want to learn more. It's the same with your LinkedIn headline. Mr. Advertising himself, David Ogilvy, once said, "On the average, five times as many people read the headline as read the body copy.

When you have written your headline, you have spent eighty cents out of your dollar." Substitute effort for money, and this quote is just as relevant for your LinkedIn headline. If you don't write one, LinkedIn uses your current title and company, and that's just plain booooooring.

Here's the proven formula for crafting a captivating headline:

Title/ Company + Keywords + Zing!

Job title and company help you show your loyalty for your company and can provide some brand buzz when you work for a revered company or have an impressive title. Keywords are critical because the keywords in your headline play a major role in how search results are displayed. Be clear about the essential keywords with which you want to be associated.

Super Special Secret Tip

Zing is something that makes you interesting. It's often how you do what you do or the value you create when you do it. Sofitel Hotels Marketing Executive Joao Rocco's headline is an excellent example.

Upload a Compelling Headshot

As you well know, people are suspect about marketing messages. Your headshot helps make what you say about yourself real. Hire a professional photographer to get the perfect shot. Make it connective. Look into the camera, crop the image so most of it shows your face, and avoid selfies and other photos from your iPhone stream – that's the equivalent of using stock photos vs. a custom professional shoot. And whatever you do, please, please, please don't leave it blank or use a logo or other impersonal image!

Name your photo yourname.jpg so it shows up on page 1 of a Google search and also in Google image searches when someone is looking for you.

Make Your Summary Sizzle

The buzzword in marketing these days is stories (if you missed my interview with the father of branding, Dr. David Aaker, check it out - it's all about how to tell your signature story - and it's really worth a listen for every marketer). Storytelling is just as important to your LinkedIn profile as it is to the brand of the company you're working for – maybe more important! The place to tell your story is in your Summary. Your Experience is where you tell people what you do and what you've done.

Your Summary is where you tell people *who*you are and why they should care. Pay close attention to the first few lines – they're all people see when they're checking you out. SAP's Global Head of Social Selling, Kirsten Boileau, does a great job with her first few lines.

The question I am asked most about the Summary is:

Should I write in the first- or third-person?

My response: Either is acceptable, but I prefer first person for two reasons:

1. Transparency. Let's be clear. People know you wrote your own LinkedIn summary; so it's a bit disingenuous to be writing about yourself in the third person. The formality of the Mad Men era is long gone (if you never watched Mad Men, do so! It's one of my favorite all-time shows, and as a marketer, it's a must!).

2. Engagement. When you write in the first person, it's like having a conversation with the reader. This creates a deeper, more emotional connection with the people who are checking you out. And as a marketer, you know it is all about creating those emotional ties.

Now, for those of you whose discomfort with the first-person has to do with modesty and the desire not to brag, I share this:

There are always ways to describe your brilliance and accomplishments without sounding like you're a self-centered, egotistical chest-pounding blowhard. So if you feel like you want to write in the first person but are a little concerned about how your prose will be interpreted, get feedback from others. Ask them directly "Do I sound too self promotional?" They'll give you the feedback you need to create something that is both magnetic and modest.

At the bottom of your Summary, include these two important messages. They are extremely important for one reader of your profile - Google:

AKA/Common Misspellings: Then, list all the ways people would search for you – even those who have no idea how you spell your name or the fact that you have a nickname. Here's how I did this in my profile. This way, Google will be better equipped to find you.

Then, to get your keywords into your profile one more time, include this right below your AKA.
Specialties: Then list all your keywords one more time. I've done this in my profile as well.

Don’t Leave Anything Blank

Your Headline, Headshot and Summary are the most important elements of your profile for getting people to know who you are. The rest of your profile – Experience, Education, Accomplishments, etc. – allows you to provide more details and proof. Don’t leave those sections blank. Give them the same attention you would give all elements of your marketing campaign. And remember to use your keywords as often as possible… without sounding like a broken record.

Here are a few thoughts to help you make the most of these sections:

- **Experience.** Be sure to show your career progression and focus on the results of your efforts - the value you create when you do what you do. You have 2,000 characters for each Experience element. Use as many of those characters as you need to get your message across. And spend most of your time on your current role.

- **Education.** When you choose the school from the LinkedIn list, you become listed as an alumnus of that school. That helps you in two ways: First, it gives you access to your fellow alumni. If you want to search for new talent or business partners, the Alumni feature is a valuable tool. Second, it makes you visible to your fellow alumni when they are searching via the Alumni search. So remember to list all your schools.

- **Accomplishments.** This is where you can highlight some of those differentiating activities. There is also an opportunity to share the credit with others. This is a great way to show that you *work well with others!* Publications and Projects are two of my favorite categories within the Accomplishments section. They help you highlight your thought-leadership.

Once you're done, you'll have the core of your profile completed.

Then it's time to help your team and entire organization amp up their digital dexterity. I'll be delivering a webinar on how you can help your company expand their social savvy on June 6th at Noon EST. And if you can't make it, register and I'll make sure you get a copy of the recording.

In my next article, I'll focus on making your profile more credible and ways you can differentiate it from your peers' profiles. So, my fellow marketer, get to work on the elements of your profile that I covered in this post so you're ready to make the most of what I'll share next.

About the Author

William started Reach Personal Branding in 2001 and grew it to become the leader in personal branding with certified coaches in 49 countries and pioneering products used by a million+ people. William travels the globe, speaking to organizations that want to engage, motivate and retain their best talent; and has delivered more personal branding and social branding keynotes to more people in more places than anyone else on earth. You can reach him via: **williamarruda.com**

How to Fill a Slump

Mark H. Bloom

What You Can Do When Your Business Slows

Every industry has them, and every small business owner experiences them. Slumps hit whenever business is slow; it seems to occur every year. Slumps may be cyclical for you — whether due to the holiday season or the summer season. Or you may never know when or why business crawls for a week or two. You may be one of the lucky ones and only get hit with a slump at infrequent times, like once a year or so.

Whether you know in advance or just reach a little waiting period between projects, you need to have a plan for what to do when business is slow. Waiting until it happens and then scrambling to keep employees busy or worrying about the bills is not fruitful — nor is it the best way to run a successful enterprise.

As Ben Franklin was fond of saying: ***"By failing to prepare, you are preparing to fail."***

Forecast: Stormy and Calm

Like weather forecasters, humans and their algorithms and predictors can only go so far. They provide accurate predictions only so often. So while you may know that September is hurricane season since you live in a coastal community, you recognize the value of having an emergency evacuation plan in hand. But you still need to know how to react when the big one hits in August or October!

Wall Street may give you a clue as to when you can expect an economic slump for which you can prepare, but financial wizards can't tell when business is slow in your neighborhood with certainty that's as clear. You may rely on experienced brokers and the latest technology to give you forecasts based on historical data and market research, but when business is slow for no apparent reason, all that investment may seem like redundancies and wasted resources.

J.R.R. Tolkien seemed to have his finger on the pulse of American business when he said: ***"It does not do to leave a live dragon out of your calculations, if you live near him."***

It's Not If, But When

Even the brightest financial prognosticators encourage business owners to keep a little back — to include a contingency plan for when business is slow through no apparent economic, cultural, political or earth-shaking disaster. And while the best mindset for successfully running a business is one that's positive and optimistic, it never hurts to give way to the realistic left-brain side of your mind and prepare for a time when business is slow.

Use that time wisely, shore up your energy and keep up the optimistic forecasts even when business is slow by following a few creative and common-sense tips, such as:

- Turn to your clients and use the time when business is slow to recognize them with a little extra attention or a limited special deal.
- Know and become proficient in every aspect of your business so that you can fill in when business is slow. When business is booming, you may not have the bandwidth to pay outside contractors for every little job in your company.
- Keep a training program or two in storage. When business is slow and you don't want to resort to layoffs, put your staff through these training processes when everyone has time, not when they're busy filling orders.
- Diversify your services. Create new offerings that serve to fill the gap the next time you get in a slump. Time is now available to get together with your partner or leadership team to brainstorm in a creative session.
- Lay out your marketing strategy for a complete review. Check the analytics on your social media campaigns, look at the number of views your blogs are getting and see how long visitors are staying on your website. Then decide what and how to change.
- Ditch the analytics when business is slow and go with some new, outrageous marketing ploy you've always wanted to try. Just like the weatherman and his Doppler radar, marketing analytics aren't always right!
- Revisit your staffing needs. Meet with key HR staff or look at the performances of your employees to see how you can better use them. Or contemplate which ones may be best left off your payroll for good because they weren't really doing all that well anyway.
- Dust off your going-to-a-meeting outfit and do some networking if you've let that part of your marketing go in lieu of business demands. Find some new networking opportunities and get out and shake hands, pass out business cards and get to know your neighbors.

Plant the Seeds Today

Risk management is not a dirty word, nor is it negative. In fact, forethought is always a positive, proactive frame upon which to base your actions from week to week, especially when you're the boss. When business is slow, it's exactly the right time to work harder.

Alternatively, if you're really a flexible Frankie, you may want to use the time to go fishing or take that trip you've been putting off for a while. With 24/7 connectivity, no one even has to know you're not in the office when business clamors once again for your immediate attention.

When it comes to business planning, Ray Access follows the advice from one of our financial heroes, Warren Buffet: ***"Someone's sitting in the shade today because someone planted a tree a long time ago."***

About the Author

Linda Ray and Mark H. Bloom form a really tight and complementary partnership. Linda was a journalist for many years, and Mark was a professional editor and technical writer. Between them, they can tackle any topic from any angle, from medical to technical and from personal to professional. You can learn more at **rayaccess.com**

5 Tips For How To Become A Web Developer From A Local Hero

Farjana Rashid

1. Don't panic

There's a huge amount to learn in the world of web development, and it's difficult to know where to begin. **Don't be scared.** Believe me; the large majority of seasoned developers are equally overwhelmed by the plethora of new languages, frameworks and tools out there. **The key is focus.** You don't need to learn everything all of the time. Learn incrementally, take moments to recognise your progress, and embrace the freedom and opportunities the field provides, rather than being overwhelmed by it.

2. Start with the basics and let the complicated stuff look after itself

So you're not panicking and your pulse rate is safely within the range of 60-85 beats/minute. Excellent. But now, in your state of quiet contemplation, you're wondering where to begin. **I always recommend starting at the beginning, which means pure HTML, CSS and JavaScript (ES5).** Don't concern yourself with frameworks, libraries, or the most recent developments in PostCSS and ES6, ES2017+… In fact, if those intimidating assortments of numbers and letters are an immediate dissuasion, just forget you ever saw them for now.

Once you've covered the basics, you'll automatically end up looking into libraries and frameworks. Why? Well, because people wrote those things to make working with HTML, CSS and JavaScript easier.

3. Set yourself realistic goals by developing your own passion project

If you're training yourself up in web development, you'll naturally be spending a lot of time on the internet. And if you're spending a lot of time on the internet, there's a lot of potential to get distracted and overwhelmed by the volume of learning material. And Facebook notifications. (If the internet had a surname, "overwhelming" and "distraction" would be its middle names.)

So how do you keep yourself on the straight and narrow? **My best piece of advice is to develop your own projects and break these down into manageable goals.** Which app would you like to build? What's your grand idea? Once you get shin-deep in your project, the motivation becomes intrinsic, and every time you find yourself saying, "I have no idea how to do this," you push yourself to research and find a way. I have always found this project-based, problem-solving approach the best way to internalize and memorize what I've learned.

4. Reinvent the wheel

Nowadays you'll hear people say that you don't have to write a lot of code yourself because there's a plugin for everything – or a framework you should use that other, more experienced developers have already made.

There's a lot of truth to this, of course. The developer community is renowned for its dedication to open source and building things which make our lives easier. **BUT… by making our lives easier, it also makes our learning simpler, and our experience shallower.** To become a good web developer, you need depth. Yes, you'll learn how to use the particular plugin you've implemented, but you won't learn the language behind it. Mastering the language will make you a far more competent developer in the (slightly) longer run than if you just juggle plugins. **Try to build things yourself.** The code won't be the cleanest in the world, and you'll make a lot of mistakes, but you'll learn from these mistakes, and learn quickly. I've rewritten some of my personal projects three or four times in their entirety in the past. Why? Because a few months later I realised I could code them much more efficiently – much more cleanly. And it's at moments like those, when you revisit your own code, that you realise just how much progress you've made!

5. Learn what you love

Web development has so many facets. You'd don't need to do everything, and don't need to do something you don't enjoy. If bugs in the backend bug you, and solving them isn't a source of sudden dopamine spikes, then don't be a backend developer. That's completely fine. Perhaps you like making things pretty – we all know the internet could often do with being a bit more beautiful. If this sentiment resonates, perhaps frontend development is the right thing for you. And the division between frontend and backend development only covers the first level of specialisation:

If you don't like fixing bugs but you do love finding them, then the life of a QA engineer could be the job for you. **Web development is a rich topography of possibility: don't do what you hate just because you think you have to. Pursue a passion.**

About the Author

Farjana is a WordPress Expert who focuses on Business Website Development. Working as both a Web Developer and Digital Strategist, Farjana is been involved in creating websites for over 200 businesses and leads a team that includes graphic designers, front end developers and back end developers. In addition to creating websites, Farjana has also consulted on the creation of web based software. You can reach Farjana via her website: www.farjana-rashid.com

10 Steps to Eliminate Digital Security Risks in Fintech Project

Max Oliynyk

Any kind of project can be of potential interest to attackers, since the information stolen in an attack can be turned into cash. In the case of financial projects, though, an attack usually results in attackers transferring user or system funds to an unknown location. This eliminates the extra steps it would otherwise take them to reach their ultimate goal.
Regardless of what stage your fintech project is at, it's never a bad idea to make sure that everything has been done that can be to eliminate all possible digital security risks to ensure that clients and the business itself are adequately protected.

"There are only two types of companies: Those that have been hacked and those that will be hacked."
– Robert S. Mueller, III, Director FBI

In this article, we'll go over the key financial cyber security concerns, as well as a list of ten components for putting together an effective system to protect the financial information of both users and the company itself.

Note: In early 2018, PSD2, the amended Payment Services Directive for the European Union, enters into force. Later in this article, we'll describe the main IT security requirements of this directive. If your company operates in or plans to operate in Europe, we recommend that you familiarize yourself with it and download our checklist.

The main financial cyber security concerns

We'll begin by looking over the main traditional digital security risks facing personal data protection in IT systems for fintech companies.

SQL injection SQL injection is the kind of digital security threat that involves the introduction of altered SQL queries. Using vulnerabilities in the system's software implementation, an attacker can execute arbitrary database queries.

Brute-force attacks Brute-force attacks attempt to recover a password by automatically guessing from a pool of possible passwords. Using a database of likely passwords (like a dictionary), this process becomes much more efficient.

Zero-day vulnerabilities Zero-days are unknown vulnerabilities used by hackers before software developers have fixed them. In addition, system administrators don't always update software in a timely manner causing additional digital security risks.

Man-in-the-middle (MITM) attacks In an MITM attack, messages being exchanged between the ends of a communication channel are intercepted and spoofed using an unauthorized connection.

Phishing Phishing is a kind of the greatest financial cyber security concerns nowadays that involves the theft of a user's information with the help of fake websites and web applications that mimic legitimate resources. Through nefarious means (often a link in an email or other message), users end up at these fake resources and voluntarily enter their login details into forms that look identical to the real ones.

Banking Trojans This type of malware is aimed at compromising specifically banking cyber security. It gathers account details, collecting stored information about users' accounts and sending this data to an admin panel. The admin panel, either by automatic rules or manual intervention, chooses a target and displays a fake page to the user.

Ransomware Ransomware is typically spread through phishing messages. When run, the user is locked out of the system by the malware, which demands a ransom payment.

For 2017, the Open Web Application Security Project (OWASP) identified the following as the most critical web application security risks:

- SQL injection
- Cross-site scripting

- Broken authentication
- Broken access control
- Sensitive data exposure
- Using components with known vulnerabilities
- Security misconfiguration
- Cross-site request forgery
- Unprotected APIs
- Insufficient protection from attacks

10 key ways to eliminate these digital security risks

1. Web application firewalls (WAFs)
Most fintech projects provide services through web applications, which are exposed to a number of risks.

A web application firewall, designed specifically for securing web applications, can be used to protect against a variety of financial cyber security threats, including brute-force attacks, session ID spoofing, etc.

A WAF monitors the interaction between client and server during HTTP packet processing. In doing so, it uses predefined rules to detect unauthorized access and block suspicious activity as required.

2. Hardware security modules (HSMs)
The main function of an HSM is to perform cryptographic operations and store digital keys. Using an HSM can reduce risk of unauthorized data modification to as low as zero. It protects data from attackers who have penetrated external security measures, as well as from dishonest employees.

3. HTTPS-secured connections

HTTPS is an encrypted version of HTTP, not a wholly separate protocol, as some think. The difference is that HTTPS supports encrypted data transfer using the TLS and SSL transport mechanisms. When implemented correctly, this type of connection protects against digital security risks like man-in-the-middle attacks, significantly increasing the security of information transmissions.

4. Creating anti-fraud filters using big data technologies

Companies that provide banking and other financial services manage huge amounts of data that are constantly being generated during the system's operation. Every customer action or transaction creates a record that's saved in a database. Analyzing this data allows one to make decisions, take user preferences into account, and manage financial risks. Another possibility in combining big data analysis with machine learning is the tracking and prevention of attackers' actions. The system must be taught to distinguish normal customer activity from suspicious, fraudulent activity.

5. Multifactor authentication

Usernames and passwords can be intercepted or accidentally entrusted to unreliable people. For these reasons, a username and password alone are insufficient to reliably confirm a user's legitimacy. Multifactor authentication systems are becoming increasingly widespread. Along with the usual username and password, users are additionally identified not by knowledge (e.g. of a password), but by ownership (e.g. of a device). As a rule, the additional authentication factor is provided by a token, which generates one-time passwords.

These may be software tokens (an app on a smartphone) or hardware tokens (separate devices in the form of a key fob or plastic card). It's much harder for an attacker to control two (or more) authentication factors as opposed to any one factor alone. Some "second" and "third" factors are even unique to a given user (these are biometric methods of information protection) – like your fingerprint, pulse, retina, or face, as in Apple's Face ID.

"In response to new challenges, Protectimus has developed a powerful means of protection against banking Trojans, injecting, and other types of malicious software that manipulates and modifies data during transactions."

– *Denys Shokotko, Head of R&D, Protectimus Solutions LLP*

6. Data signing (CWYS)

Data signing is an effective measure against injections, banking Trojans, and other means of swapping out data during a transaction. The working principle here is that of a one-time password, used for transaction confirmation, which is generated based on the data of the particular transaction being performed by the user at the time. Such "marker" data might include the amount of money being transferred, the currency, the recipient, the client device's IP address, etc.

In this manner, even if the one-time password is intercepted, an attacker cannot use it to sign an illegitimate transaction, as the one-time password will have been generated based on entirely different data.

7. Smart identification (behavioral factor analysis)
The use of this model can serve to ease the “burden” of multifactor authentication somewhat. If a user’s characteristic behavior remains consistent across several sessions, the system may not require additional identity verification from the user.

The simplest example of this kind of smart identification is when a system remembers the browser and device you use, or the time and your IP address when you sign into your account.

8. Payment balance reconciliation
In this method, the user’s balance and transaction amounts are verified against each other. If a discrepancy is identified, the user is blocked from withdrawing funds. The balances of internal and external payment systems can also be reconciled to protect companies from unscrupulous partners. Constant balance reconciliation can serve as a good countermeasure against data tampering and system errors.

9. Database replication
Replication involves the synchronization of changes to data: the data from one server (the master) is continuously copied (i.e. replicated) to one or more other servers (the slaves). Replication is used for scaling and/or to improve fault tolerance. In this article, we’re more interested in the latter.

In the event that the master server is unable to handle a request, requests can be transferred to one of the slave servers, which becomes the new master (and the old master server becomes a slave after being restored). This technique helps to maintain data and system performance in spite of various planned or unplanned events.

10. Backups

In case of destruction or unauthorized changes to databases and other elements of system software, it's essential to regularly produce backups and store them somewhere reliable, preferably also somewhere remote. Keep in mind, though, that there are disadvantages to backups—unlike database replication, backups only store a snapshot of the system at the time of the backup. This means that when restoring data from a backup, the latest data will be lost.

PSD2 summary: the future of cybersecurity in European fintech

In January 2016, the European Union's new payment service directive entered into force. After a two-year transition period, as of 13 January 2018, the previous version of the directive (PSD1) will be retired completely. All European fintech businesses will have to bring their operations into compliance with the new requirements. Among other things, significant attention has been given to the following issues:

- banking cyber security;
- protection of personal data on the internet.

The use of financial cyber security methods like multifactor authentication and dynamic transaction confirmation will become mandatory.

Additionally, multifactor authentication will be required not only when clients log into their accounts with fintech services, but also upon making an electronic payment, as well as when remotely managing financial accounts. (Per the directive, such thorough verification is not required for transactions under 30 euros.)

You can familiarize yourself with the basic requirements of PSD2 and check which requirements your system meets by downloading this checklist.

And here are 10 must have steps to eliminate digital security risks in fintech project, check if you've done all of them now:

1. Web application firewalls (WAFs)
2. Hardware security modules (HSMs)
3. HTTPS-secured connections
4. Creating anti-fraud filters using big data technologies
5. Multifactor authentication
6. Data signing (CWYS)
7. Smart identification (behavioral factor analysis)
8. Payment balance reconciliation
9. Database replication
10. Backups

About the Author

Max Oliynyk is the CEO of Protectimus Solutions and has spent the last 13 years working across various disciplines in Information Technology and has project experience as and initiator, architect, developer, mentor, program/project manager and co-founder. Max specialises in financial services solutions, web development, mobile device management and security solutions. You can read more of Max's articles at: **https://www.protectimus.com/blog/digital-security-risks-fintech/**

The innovation of science fiction

Amy Gibbs

Star Trek fans understand that future technology imagined in science fiction often becomes real.

Over the years, the series has shown characters using flip phones, natural language queries to AI, iPad-like tablets, smartwatches, universal translators and 3D printing in the form of replicators (Earl Grey. Hot.). All of which have since become things we can use in the present day.

These objects materialised in reality partly because budding inventors and scientists were inspired by their conceptual attractiveness, how they were integrated and used within an imagined world, and found a way to turn at least part of that future into the now.

Contemplating these possible futures, with their narratives in which new products and services are woven, is a useful tool to begin any kind of digital transformation project.

To boldy go… science fiction's exploration of the future

While science fiction often envisages possible futures, it doesn't (usually) set out to prophesy them.

That's a pastime better left to futurists, economists and Nostradamus. Science fiction, while entertainment, does however aim to shed light on the human condition.

The nature of sci-fi is found in its believable, physically possible subject matter, unlike most fantasy which operates in a realm of logic unlike our own. This shared reality enables us to examine how innovations might be used and through that, to see their value.

Perhaps then it is not so surprising that many examples from the science fiction oeuvre, from literature to television and film, have unnervingly predicted technology and social phenomenon that we experience today.

Sci-fi predictions come true

In 1865, more than 100 years before the US successfully achieved it, Jules Verne wrote of man's voyage to the moon in the rather literally titled *The Earth to the Moon*. In 1888, Edward Bellamy predicted the use of credit cards in his utopian fiction *Looking Backward: 2000-1887*.

Ray Bradbury imagined earbuds in 1953 (*Fahrenheit 451),* Aldous Huxley, antidepressants in 1931 (*Brave New World*), Arthur C Clarke, computer tablets with digital newspapers (*2001: A Space Odyssey,* 1968) and of course, George Orwell who, in 1949, when even colour television wasn't yet being broadcast, predicted the always televised surveillance state in *1984*.

On television and the silver screen too, we've seen a parade of technology appearing years before its time. There's video call *à la* Skype in *Blade Runner*, virtual reality glasses in *Back to the Future*, heads up augmented reality displays in *Terminator* and *Predator* and holograms in *Star Wars.*

These stories are thought-provoking and often immensely entertaining, but can we take more from the fact that so many of their imagined objects have come true?

A new way of thinking

The concept of design fiction is a thought experiment, a way of purposefully imagining future societies and the set-dressing that goes with them while dispensing with the shackles of reality – such as technological capability, funding or commercialisation potential. Or, to put it another way: design fiction is the deliberate use of diegetic prototypes to suspend disbelief about change.

The method uses fictional future scenarios in order to imagine and examine the use of products. While this could be seen as a form of prototyping, there's a subtle difference which lies in the expanded universe around these creations.

Julian Bleecker, who coined the term in 2009, says design fiction "creates these conversation pieces, with the conversations being stories about the kinds of experiences and social rituals that might surround the designed object."

“The assembled design fictions are component parts for different kinds of near future worlds. They are like artifacts brought back from those worlds in order to be examined, studied over. They are puzzles of a sort.”Puzzles which we can then reverse engineer into reality.

Putting humans first

One benefit of a design fiction approach is that it allows businesses to invent things, then examine them for feasibility in a kind of ‘in situ’ future world.

Aspects such as how they might be interacted with, what role they play in amongst other potential objects of the day, their drawbacks, or any other question can be asked of the designed narrative.

In this way, design fiction takes a human-centric approach to creation, similar to design thinking, which aims to solve a problem in the present. By putting the social or human/customer first and technology second, it allows designers to understand the efficacy of the product and discuss its potential flaws.

Star Trek’s communicators inspired mobile phones not because they were the focus of the show (as they would be if a prototyping exercise) but because of the ease and utility they presented in the daily lives of the fictional characters.

Using design fiction for your business
Companies such as Microsoft, Google and Apple have dabbled with design fiction, connecting science fiction writers with their developers.

Of course, tech giants have the benefit of their own engineers to turn fictions into a reality. But while local business might not have the immediate capability to build the objects they imagine, the concept still provides a starting point. The actual development of an object can then be approached using other design and implementation methodologies.

Knowing *what* to design, when you've been tasked with disrupting for competitive advantage, can be a daunting task. The good news is that not only is it fun to write a fictional scenario for your product or line of business, it also helps to spark ideas. And then it allows you to explore those concepts, freely and with a blank slate.

By extrapolating today's sociological, technological or economic trends and imagining a future for tomorrow - and then filling out the world's details, objects, characters and interactions - businesses can examine the potential uses of imagined goods, giving them a product to aim at building.

Keep asking questions of your world and its inhabitants, find the puzzles, then work backwards to something possible.

The reality of fiction

There are still objects from science fiction that are being made real. Warp drive is theoretically possible, holodecks are coming along with advances in RV and we're managed to teleport quantum matter into space.

Last year, Uber created a design fiction of its own, announcing that it would roll out a network of flying cars by 2020. The company itself cannot make flying cars. But by creating a vision of a fictional future, it is hoping others will join them to make it real.

Whatever your line of business, product or service, there's a design fiction that could help you to innovate. What's the story of *your* future?

Imagining it will be the first step towards making it a reality.

A version of this article originally appeared in PwC's Digital Pulse publication on digital transformation, experience, technology and innovation. Anyone can sign up for its weekly newsletter here.

About the Author

Amy Gibbs is a professional writer, communications specialist and corporate social media expert. Holding a PhD in social media from Monash University, Amy is an expert in how people in online communities conduct friendship, initiate trust, retain interest and police themselves. Amy regularly speaks on digital disruption with a particular interest in insurtech and is the Global Content Editor of Digital Pulse.

We need a New Leadership Paradigm

Mike Byrne

We have been talking a lot internally about how we manage our people. The world has changed and while it did not change overnight, many of our management tendencies are stuck in a World War II mindset. We need to ditch the Command and Control structure and go full Agile. It is hard, many of us managers will not make it, or if we do, we will be terrible at it. Unfortunately, outside of a couple exceptions we need to make the switch or else the client suffers and we provide unbelievable opportunities to our competition. Here are 3 specific changes we all need to direct ourselves towards:

Designed Positional Flexibility – We need to be able to identify those who can move quickly and try to find ways to change the way we normally treat things. Great employees do not wait for their time, they are always pushing to grow. Policies like 1-2 year positional cycles or having them follow a career path that everyone before them has followed is not the right thing for our people. We need to make the path customized for the skill set, the potential and the drive. This does not mean that they don't have to earn their way. In fact, it may mean the opposite in that they will be given some of the hardest challenges in order to move faster.

The reality is that many want those opportunities and they are looking to challenge themselves – we just need to configure the assignment, communicate well through it and expect a much higher level of failure.

More Coaching and Less Supervising – I believe we have lots of Supervision going on. People are assigning tasks and are expecting heads down work for days or weeks at a time. We seem to be having very low expectations for our staff and they are casually meeting them. We need to expect more but provide guidance and freedom to try new things. We need to give direction but let them set the approach. We need to make sure there is proper reflection on the lessons so that they get stronger and not admonish them for not following the procedure. This requires a different leadership style. Many elements of our company have this but unfortunately many more do not. It is easy to watch people do tasks, much harder to develop people.

Project Work vs. Assembly Line Work – Much of our work is designed much like an assembly line. We have created a group of specialists that no longer need to think – just do the defined task very well and put it back in the queue. We have achieved great efficiency based on this work, but we have not achieved ownership for the client. This has now become our greatest growth limiter. We are having trouble growing our next generation of leaders because few can expand past the Specialist phase. The assembly line runs too fast and no one gets to learn the big picture or try to implement real change if the line is too complex. We need to change our work to a completely different type of design and meeting pulse.

Much of this has been tried and elements of it have shown to be very successful. Agile is only a starting point but has many of the right characteristics. Ownership, input and work selection are key. I still think we can go further – we need as much of the decision making as close to the client as possible, and the front lines need to influence more of the overall goals.

Many of us managers will not be the right fit for the next generation of work. Let's be honest, many of us were promoted when the best individual available was asked to take the Manager role. That made many outstanding employees into average managers. These average managers are hanging onto the assembly line approach for dear life. We need to be honest and step aside and build up our replacements. Many are waiting, we just need to provide the opportunity.

About the Author

Mike is a graduate of McMaster University and has held a variety of executive leadership roles including his current role as CEO of Aquila Software. Mike has a long history of working in the computer software industry and some of his areas of expertise include Enterprise Software, Strategic Planning, Business Development, Strategy, and Strategic Partnerships. You can contact Mike through Aquila Software at: ***http://www.aquilasw.com***

Organic: The Key to a Kick-A** Social Media Strategy

Nicole Cortines

Social media. We all use it. Many of us more than we'd like to admit. Yes, even our parents. However, not enough businesses know how to optimize it for business use. With 1 in 4 users following brands on social media from which they might make a purchase and 91% of brands active on more than one platform, the opportunities are vast and the competition stiff.
Luckily, a competitive strategy doesn't have to be expensive. Meet the wonders of organic social media. Organic social media is use of free social media platform tools and services. However, this alone won't get you far.

So, what's the secret?

- Well, for starters, it is no longer enough to simply exist. A business' social media strategy has to attract and engage with the consumer. From experts at Sprout Social, here are some critical steps to ensure that your organic social media strategy kicks a**:
- **Establish challenge-curbing goals**: these goals will depend on the state of a business' current social media climate. That being said, some to consider are "increase brand awareness," "drive in-person sales" and "create a loyal fanbase."

- **Compare your social media audience to your customer profile**: start by researching your target market's demographics and psychographics. Then, segment this market if necessary based on social media users. Most importantly, check whether your researched customer profile matches with current audience members.
- **Set metrics to track your goals**: these metrics might include reach, clicks, engagement, hashtag performance, sentiment (how users react to content) or organic and paid likes.
- **Get a pulse on the social competitive landscape:** in other words, know what your competition is doing to strategize. What can a business implement to keep up with their competitors' pace and possibly out-perform?
- **Build engaging content:** based on research you would've already done on your customer, make sure you curate content that they can't resist!

How is organic social media more than just brand building?
Organic social media is more than just brand-building. It is an important component of a killer inbound and content marketing strategy in that it effectively builds a relationship with social media followers.

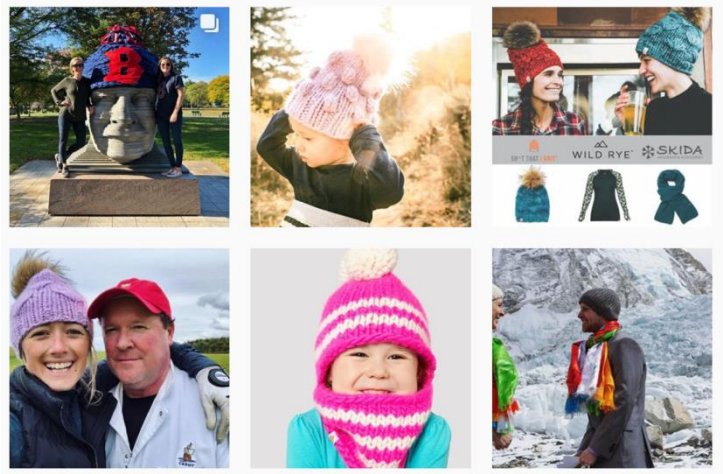
Social media marketing has a 100% higher lead-to-close rate than paid marketing, a testament to the relationships that a successful organic social media strategy cultivates. One of the primary reasons for this genuine relationship-building is the simultaneous learning that occurs between brands and customers. Additionally, the engagement can be much more personal, appearing in the form of answering questions, giving and responding to feedback or even starting conversations.

All of these examples are key to building strong consumer-business relationships that go beyond one-direction brand loyalty.

What is the value of a social media management platform?
To simplify a social media strategy, business' can utilize management platforms. These platforms,
like Hootsuite or Feedly, are valuable tools to ensuring a business reaches its social media goals. These benefits include:

- Management of various social accounts from a single interface
- Scheduling posts in advance
- Monitoring key words
- Exploring varieties of relevant content
- Tracking social engagement
- Analyzing overall social performance

Sh*t That I Knit: An Organic Social Media Case Study
Sh*t That I Knit is a knitwear company from Boston, Massachusetts. Its founder and CKO (Chief Knitting Officer), Chrisitna, is free-spirited and values her personal relationships with customers. This is evident in her usage of social media platforms.



Sh*t That I Knit's social media includes the company's Facebook and Instagram. The company uses organic social media to connect with consumers regularly. Likewise, Sh*t that I Knit uses social media to share the culture that the company has cultivated. Examples of content include knitting events, consumers' knit stories, activities associated with the knitwear, and more! With nearly 25K followers, and hundreds engaging every day, it appears Sh*t That I Knit is a great example of a successful organic social media strategy.

About the Author

Nicole is a marketing professional who has a passion for market research, particularly in the information technology space. Outside of research projects for Microsoft, Nicole has been involved in research projects for financial institutions and currently works for Litzia where she is involved in market research, website based marketing and social media marketing.

Spelling With Numbers: How To Tell Client Data Stories That Work

Eric Shumake

It is increasingly imperative to provide your clients with access to comprehensive data metrics that track the key performance indicators for their business.
This is a consequence of the advent of results-based design processes that emerged in the digital age. Those that do not provide relevant and actionable analytics for their clients will continue to lose business at an accelerating rate. Fortunately, there's an easy fix and that's learning how to put together an essential core set of data analytics to track the vital signs of your client's business.

"There are three kinds of lies: lies, damned lies, and statistics." -Benjamin Disraeli

One of the big risks inherent data analytics is that, as soon as you have a pie chart and a spreadsheet, it all looks credible. Data has an "aesthetic" of accuracy, but in reality can be easily misinterpreted with disastrous results. One good way to avoid this is to visualize the story of the data that is represented rather than to conceptualize it in the abstract.

In order to analyze data in a meaningful way one must look at it as part of a larger narrative. Often times the story can only be fully understood when many of the facets or data points are put together and measured. One can then test these data stories by applying the insights and measuring the results, after filtering out extraneous market factors.

Data can highlight some difference in almost any instance but does that difference actually make a meaningful difference? One should not look at data-points as an end result but rather as ongoing indicators. If we measure, for example, the number of video completions rather than the number of the video clicks, or the number of video completions after clicking from a particular content link, then the story begins to emerge.

In general, a data analytics dashboard should not look like an airplane cockpit, it should look more like a blood pressure monitor giving just the key data on the pulse of the organization. Any level of supporting depth is a welcome enhancement, but must be codified in a clear information architecture, and easily accessible in an individually meaningful way.

As with many things, less is more.
Data analytics can be delivered in the form of a report, a live database, or a full analytics portal. The key aspect is having meaningful data that shows a return on investment in a way that can be reasonably understood and independently verified for accuracy.

While there are many services out there, both proprietary like plot.ly and open source like tableau, there are also free solutions that can be put together such as Google Charts.

Avoid the compulsion to over-explain or over-present your data at all costs.

Most folks don't know want to know how to build a watch, they just need to know what time it is.

It is always better to have some data than no data. Even if you don't have access to the comprehensive data reports you would ideally like, it is still imperative to communicate and highlight the value of the data that does exist and use it as a stepping stone.
It is important to understand what the client needs to do with the data that you're providing them because you need to arm them with what they need to win internally; by showing a return on investment for example, an uptick in enrollments, or a lift in sales year over.

Help them tell THEIR story.
Ask them questions like:

- W*hat is the data story that you need to tell?*
- *What are the key performance indicators that we can help you craft into a story of success or lessons learned?*

This will get you started on the path to learning how to write powerful data stories.

About the Author

Eric has degrees in both Graphic Design and Experience Design. For the last 17 years Eric has been a Digital Creative Director and Consultant, assisting household names such as Proctor & Gamble, Johnson & Johnson, Capital Group, Bissell, Mars/Wrigley, Acuvue, Ubisoft, The Integer Group, The Creative Group and TBWA. Eric has extensive experience in research, design and development.

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Building a Finance Function for Startups and Early Stage Companies: A Strategic Guide

Jim Morales, CFA® FPA™ CMA® CSCA™

Most startups begin their journey by focusing on product and people. This makes sense of course. A company needs a product or service to sell and then find the right people to execute its go-to-market strategies. Usually the founders will have some background with the product/service from a former career path or hobby, there is a proper focus on actually getting something viable worth selling, and then a shift towards what (and who) is needed to get that first sale on the books.

As a result, many startups do not give much thought to building out a strong finance infrastructure from the beginning and it is usually the last function built up. This is a mistake and can lead to bad outcomes such as:

- Sub-optimal growth as decision making is impaired due to lack of visibility into operating (and therefore financial) performance.
- Unforeseen cash crunches due to working capital mismanagement.

- An inability to gain future funding well in advance of needing it for growth
- Worst case? Eventually cease as a going concern (aka out of business).

Founders should become fluent in the financial performance of their business, even if not a natural skill. It will make them more effective in their leadership role and enable them to foresee and avoid issues that could otherwise impact the long-term viability of the company they have invested much time, and likely money, into starting. Founders cannot be just visionaries or just product guys (or gals). They must also develop into businesspeople; those who think and communicate in terms of quantitative performance. What's that? You may have heard this called "the numbers".
In this article, my aim is to layout a roadmap that gives direction on how to build a sustainable financial infrastructure that will allow founders just starting their company to manage and support their growth path. Every business is different and exact business model will dictate how your finance function should be built, but this guide should provide a common foundation you can adapt to your needs. A prudent start will pay dividends over the long term, especially if growth accelerates beyond initial expectations.

Background
Before we dive into specifics, all founders should be honest about their own financial acumen and ability to speak fluently to financial performance. Below is a set of questions to help you gauge the strength of your financial knowledge:

Questions for Founders

How would I assess my own and my co-founders financial knowledge? Do I understand the P&L/Income Statement, Balance Sheet, and Cash Flow Statement? Do I understand how all three tie together? Which one is the most appropriate to focus on initially? How about Cap tables? Operational budgets? Financial forecasts? KPIs and Dashboards?

How familiar am I with not only basic accounting principles, but also how to use financial analytics and metrics to answer questions such as: How many prospects convert to customers? How long does it take to close a sale? How many work-hours does it take to staff a location/build a product? How much cash will I need to get to a milestone? How much in marketing will I need to spend to produce one sale?

What is my own comfort level with understanding how my company's financials can help my team be more engaged around the performance of the company and therefore be more effective building and managing it as if it was their own?

If the answers (or lack thereof) to these questions create discomfort or you feel like you should not care about some of this because the product/service is the only thing that matters, you should pause and give strong consideration towards some of the steps outlined in the rest of this article.

Questions for Your Team

1. How well do you understand the financial results of our company? Do we feel like partners in running it or just cogs in a machine?

2. What aspects of our business do we need to get a better handle on? Are we confident that our strategic decisions are supported by actual data? Where should we be better at monitoring and measuring our performance?

If your team cannot effectively answer these questions, or they do not show much concern as to why they cannot answer them effectively, you should be very concerned and immediately move to implement some of the tips outlined below. A high performing team, even if just a few people in a garage, should be familiar with how the company is performing financially.

Most people can fall into the trap of thinking Finance = Accounting and Accounting = Finance. We just need some bookkeepers and people who can reconcile bank statements, do journal entries, pay some bills, etc. WRONG! While of course those are necessary functions of any business, the true value a good Finance function can add is much broader in scope.

Treat building your Finance function like drinking water. Waiting until you are thirsty means you are already dehydrated. Better to start early instead of waiting for the warning signs.

Core Finance Functions Needed:
Bare Minimum Features (from Day 1):

- **Payroll** - ensure employees and contractors are paid correctly and on time. Comply with any state and federal tax filings.
- **Cash Management** - Accounts Payable (AP) and Receivable (AR) and monthly bank account reconciliation. This will include credit control, which is managing outstanding amounts owed from customers and avoiding bad debt. Cash flow is THE critical measure for any startup and any mistakes here can be disastrous. Establishing a cash rhythm is critical early on.

Features to Build Over Time:
Below are other features you will want to consider adding to your Finance function over time as the company scales:

Board and Investor Communications - Monthly/Quarterly/Annual Decks to shareholders. Pitch Books to potential investors for capital raises (angel or institutional). Can also be used to communicate performance to broader organization. Must be due diligence ready at all times.

Operational Plan - Sales Plans, Financial Budget (G&A), Compensation Plans.

KPIs/Dashboards - Granular reporting on the key drivers for the organization and presented in a format easily digestible for quick decision making. Given startup stage, KPIs should be tracked weekly at a minimum with monthly and quarterly frequency as well. This cadence will allow you to gain a quicker pulse on business performance and facilitate faster decision making.

Solid Financial Structure - Vital to have a General Ledger (GL) and cost center structure built out early that allows for granular journal entries so the data can be used to drive key business decisions.

Regulatory Compliance - Depending on industry you may have regulators you need to provide key information to on a consistent basis (e.g., quarterly/annually) and taxes are another area you will need your Finance function to report on regularly. Audit requirements are another compliance issue that will require support.

Strategic Planning - Modeling the key opportunities, risks, and costs associated with the business model and plan. Understanding unit economics, competitive influences, and what drives growth. Can also participate in strategic planning sessions to help ownership understand impact of various options.

Building the Finance Function

When and How to Build Out a Team:

- In early stage (pre-revenue to $10-15M), consider using an outsourced finance team from a full service accounting and finance firm. Find firms that have experience with startups and venture/Private Equity backed companies. The costs involved here will be much less than building an in-house function and allow you to dial up/down your engagement as your needs fluctuate.

- You should look to outsource payroll and basic AR/AP functions but stay intimately involved in digesting the reporting you will receive. It is vital to understand the cash inflow/outflows of the business at this stage as it will help you to understand what friction points exist that prevent you from turning a sale into cash quickly. You also want to fully understand where the company's capital is going. This also allows founders who are not financially savvy to build up that skill in advance of major dollars flowing through the company.

- Once you grow past the $10-15M in revenue stage, consider building an in house finance function. This is likely when you also want to hire your CFO/Head of Finance to oversee the transition from the outsourced firm and build out the team and internal processes.

- A good rule of thumb is to hire your Head of Finance around the same time you hire your Head of Sales. You want this structure in place because of the risk associated with going to market and all of the costs involved. You want the right oversight in place in advance of this major milestone. This is a critical stage for your company. You are making major bets on marketing efforts, distribution channels, and other key investments. Having a partner who understands the very unique relationship between data, decisions and financial results will mitigate risk at this key juncture.

- Another rule of thumb to start scaling up the Finance function team size is to start hiring when existing processes or lack thereof begin to become a problem for existing staff or hinder your ability to get information in a timely manner.

You will know when this occurs due to delayed monthly closes, late reports and team working higher than normal hours.

Solid Finance Team Characteristics:
Once you reach the stage of either hiring an outsourced firm or building internally, you will want the resources working on your financials to have the below skills. Note that some of the below may not be feasible with an outsourced firm that does not sit onsite since they will not be as exposed to the same information flow as the internal team:

- Deep understanding of product or service being offered, target market dynamics and external competitive influences. They should be able to tell stories around what is happening in the financials and link back to what the key business drivers are.

- Solid handle on the overall strategy of the startup and what the key milestones are. Can develop, refine and provide execution of the financial roadmap which will become the operational plan.

- Focus on Gross Margin, cost control (efficiency), cost to acquire (CAC), cost to serve (CTS) and lifetime value (LTV).

- Good accounting knowledge and even better Financial Planning & Analysis (FP&A) skills, including Excel, database (SQL) and reporting (dashboards/KPIs/charts/PowerPoint).

Team Structure:

Below is a proposed team structure for a startup in the $10-15M in revenue stage. Exact needs and team size will vary by business complexity but a good rule of thumb is the Finance function should be between 10-15% of your total corporate staff. Anything more than that may indicate some inefficiencies in existing structure.

- **CFO/Head of Finance** - Will be responsible for three main areas initially: transactions (GL), compliance (audit/tax/etc) and performance (reporting). You want someone fluent in all three. Capital raising can come later but if you anticipate having to raise capital eventually (very likely), you want someone experienced in this area or at least comfortable interfacing with external parties.

- **Accounting Analyst (AP/AR)** - Will handle basic bookkeeping and bank reconciliation.

- **Controller** - As you get to a big enough structure, having a Controller who can oversee the AR/AP analysts and get into tax as well becomes helpful. Will likely also handle initial reporting needs but the backward looking focus will limit ability to forecast future.

- **Financial Planning & Analysis (FP&A) Analyst** - Will expand on reporting capability and build out a robust budgeting/forecasting framework used to evaluate performance vs targets. Can also own financial model used for strategic planning purposes. Will likely be very involved in information provided to external parties such as investors and banks.

Supporting Infrastructure

In addition to staff, there will be some other groundwork needed around Finance. Some initial needs a startup should have:

1. **Accounting Software** - Now that most software exists in the cloud, there are tons of options to choose from and due to the lack of IT infrastructure needed and an ongoing subscription model, they are very attractive. Quickbooks Online is a favorite as it is usually easy to find accounting personal experienced with it or the desktop version. This link lists many of the options. The good news is that switching between systems early is not too difficult if you do it before the company grows too much. **Recommendation**: speak to other startup founders either in same or adjacent industry to get insights. If financially feasible, consider engaging someone experienced who can evaluate for you and present options so you do not spend too much time on this decision.

2. **Payroll Provider** - Most of the accounting packages mentioned above will come with a payroll feature as well. Note earlier comment on state and federal filing requirements which a good payroll provider can assist with. Look for this type of support when evaluating accounting systems. **Recommendation**: this is another area to speak with other startup founders about.

3. **Bank Account** - Your banking needs will change over time most likely but for initial startups look for banks that provide free checking options, online tools and allow mobile deposits.

As you scale, if obtaining a loan is ever a potential option, you may look to move your accounts over to the bank lending funds as it can lead to better terms.

4. **Financial Model** - this will likely be done in Excel initially. As you scale, consider implementing an online financial planning tool such as **Vena, deFacto or Adaptive Insights.** All are good options to take your financial planning capability to the next level. Look for solutions that give you the front end flexibility of Excel with the backend robustness of a dimensional database that can slice and dice data very easily. You will be thankful to have this ability as you grow.

5. Cap Table - **Do you know what a cap table is?** You will likely be able to manage this in Excel initially but once you start raising capital, this can get complicated and software like **Carta** or **Reportally** can assist.

<u>About the Author</u>

James ("Jim") Morales has over 20 years of experience working for well-known companies such as PricewaterhouseCoopers, Deloitte, Volvo, Sony, Sysco and Burger King as well as consulting for several early stage companies. His unique combination of Strategy, Finance, IT, Project Management and Organizational Design experience gives Jim the ability to look at an organization holistically and turn vision into action. Jim built two FP&A departments from ground up providing strategic and financial leadership to the C suite and has implemented strategic management systems using the Balanced Scorecard framework.

He is a Chartered Financial Analyst (CFA®), Certified Management Accountant (CMA®), Certified in Financial Planning & Analysis (FP&A™) and Certified in Strategy & Competitive Analysis (CSCA™). Jim is the VP of Finance for Silverspot Cinema and entertains opportunities to collaborate with others to support their growth or transformation process and help them build sustainable platforms for success. You can reach Jim through LinkedIn at:
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Customer Retention 101

Tammy Duggan-Herd, Ph.D

Customer loyalty can hold massive value for any business. With a conversion rate nine times higher than that of first time customers, a tendency to spend as much as five times more an average on your products and services, and a promising likelihood of becoming brand ambassadors, it is only right that returning customers deserve to feel rewarded for their commitment to your company. This is why any company should have a strong customer retention strategy in place.

WHAT IS CUSTOMER RETENTION?

Customer retention refers to the strategy and actions that a company takes to retain its customers over a period of time. Retention campaigns often focus on building long-term relationships with customers by rewarding loyalty, maintaining engagement, and earning trust.

Customer retention is dependent mainly on the acquisition of new customers and on churn-- the stage when customers stop doing business with a company or end their subscription to a service. The most straightforward way of assessing how effectively a company is retaining its customers over a period of time is with the customer retention rate.

HOW DO YOU MEASURE CUSTOMER RETENTION?

Mathematically, customer retention is expressed as a percentage. To calculate it, a time period first needs to be specified—this can be in days, weeks, months, even a year. The formula for calculating the retention rate is ((number of customers at the end of the period – the number of customers gained throughout)) / number of customers at the start of the period)) X 100.

An example: If you had 1000 customers at the start of the determined period, lost 40 customers, and gained 65 new ones, you would have 1,025 customers at the end of the period. Thus, your retention rate would be ((1,025-65)/1,000) X 100, or 96%.

WHY CUSTOMER RETENTION MATTERS

Customer retention is important to a growing company as an indication of literally "withstanding the test of time" when it comes to addressing the needs of existing customers, not just attracting new ones. Did you know that acquiring a new customer can cost five times as much as maintaining a relationship with an existing one? That being said, the bottom line is that low retention rates hurt your ROI considerably.

In addition, customer retention plays a significant role in a company's reputation. Those customers who find their needs served and their loyalty rewarded are, unsurprisingly, more likely to leave positive testimonials and provide referrals. In short, retention is a KPI with regards to gauging the quality of the relationships being built with customers over time.

KEY CUSTOMER RETENTION STRATEGIES

Now, let's go through an overview of some best-practice strategies for customer retention.

1. SET EXPECTATIONS PROPERLY

This includes both expectations set for your company with regards to its retention rates, and the expectations set for customers themselves. These should be established early on, and above all be specific, consistent and realistic. For instance, a 99% retention rate is virtually impossible for any company to maintain, and aiming to achieve it would be unreasonable.

Notably, there is no single benchmark for a “good” retention rate—the answer varies by company size, industry, sales cycle length, whether the company is B2B or B2C, and a multitude of other factors. It is a good idea to conduct some research on the performance of similar (successful!) businesses in your field before setting objectives.

With regards to customer expectations, perhaps the most straightforward rule is to make promises on which the company can deliver. Avoid overselling products and services; keep time-sensitive offers and deadlines in mind, maintain regular communication, and offer some sort of compensation in the case that you do fail to deliver the anticipated level of quality.

Trust is the most valuable currency in your relationship and it should not be exploited carelessly!

2. CREATE A ROADMAP

If acquisition is a sprint, customer retention is a marathon—so a strategy is all but necessary going forward. A retention roadmap, featuring upcoming initiatives, projects, promotions, etc., can help prevent relationships from stagnating and organize multiple “tracks” of retention programs with a precise schedule in mind.

Loyalty and rewards programs have become staples of long-term customer service strategy in the marketing world, particularly for eCommerce. Consider the nature of the products/services offered by your company when deciding on the kinds of promotions and initiatives that customers would find most relevant. Fortunately, plenty of inspiration can be found in existing, real-world examples.

3. REGULAR CONTENT CYCLES

While even the most loyal of customers may not always be ready or interested in making purchases, there is another, non-material way to keep them invested in your company: providing content they care about. The difficulty of this varies depending on the nature of the business, but there is nearly always a way to offer educational, informative, or at least entertaining value.

Blogs, videos, e-books, social media posts, and webinars are all great methods of delivering content; and don’t forget about the time-tested channel of email marketing. Contrary to what some marketers claim, email is still going strong in 2018; with a massive 4400% ROI, it deserves a spotlight in a customer retention strategy.

From “insider looks” into the company, to special discounts and offers, to friendly cart reminders and custom product suggestions, there is endless room to create personalized, meaningful relationships with recipients through the platform.

The main goal is to provide a sense of exclusivity for existing customers, and organically combine sales offers and promotions with information that delights the reader. Above all, whether developing a social channel posting schedule or creating a lead nurturing email series, take the time to create a well-rounded content calendar.

4. DON'T PAINT WITH A BROAD BRUSH

You will often hear about segmentation in our blog articles, and for good reason. A segmentation strategy that incorporates the needs, behaviors and attitudes of customers past, present, and future can be crucial to understanding customers' needs at any given point in time.

For example, an actionable segmentation strategy could involve dividing customers into lifecycle stages of newly acquired customers, currently active customers, and customers in a phase of churn. These can then further be segmented into categories like "about to churn," "re-engaged," "stagnating engagement," etc. as necessary. From there, you can custom-fit approaches to addressing each segment's unique needs.

A variety of analytics tools is available on the market to report on how well customers respond to particular re-engagement efforts, loyalty initiatives, even specific drip emails. Of course, raw data is only half of the battle; knowing how to how to build segments around your findings and where to focus your attention can be considerably more complex. Which brings us to our next strategy…

5. KPI'S HOLD THE KEY

Key Performance Indicators, or KPIs, provide actionable and relevant guidelines by which to gauge the success of a retention strategy and focus on the right areas for improvement. Of course, retention rate seems like the obvious priority, but there are a number of other, less apparent indicators which are often not given enough attention.

Some examples include:

- Response time-- how quickly you reach customers and interested parties, whether it be with an automated email or a live phone call (depending on the nature of the company)
- Average purchase frequency
- Average transaction value
- Rewards/loyalty program member ratio- the proportion of total customers that are enrolling in your loyalty programs
- Net member base growth/decline
- Email contact base growth/decay
- Top registration channels
- Re-activated members

Your KPIs may shift in relevance over time, and will need frequent re-examination to ensure that they are delivering the "bigger picture" you need to see.

6. HUMANIZE CUSTOMER CONVERSATIONS

67% of customers mention bad customer experiences as a reason for churn, but only 1 out of 26 will openly express dissatisfaction— with the others simply leaving quietly. And what provides a worse experience than a non-communicative, detached business focused solely on automation?

In the digital age more than ever, customers like to feel that their feedback is being heard and their offers being extended by a human, not a machine.

Thankfully, this is one of the easier tips to implement. Use channels such as social media and email to connect and communicate with customers, creating a space to enter a conversation; in the case of B2B companies, create regular reports demonstrating the value your products/services have presented the client.

When needed, get in touch to resolve issues or check in to thank a customer for their commitment to the company. A simple note of appreciation can go a long way!

7. TESTIMONIALS: HONESTY IS THE BEST POLICY

The idea that customers greatly value transparency has been affirmed time and time again. In addition, surveys have shown that including only positive reviews on a company's site creates suspicion among readers, who conclude that they are inauthentic. For this reason, the simple act of encouraging feedback can play a powerful handing in helping to retain customers.

Opening the floodgates to receive and display the negative reviews with the positive ones may seem intimidating, but the practice provides a multitude of benefits, including building the trust of customers and prospects alike, making existing customers feel more engaged, and providing data directly from the source to help you more efficiently improve the customer experience going forward.

A version of this article originally appeared on the Campaign Creators Blog. You can find the original publication here: **https://www.campaigncreators.com/blog/customer-retention-101**

About the Author

Tammy is a psychology researcher turned marketer. She uses her understanding of consumer behavior, statistical analysis and research methods to lead the marketing and website strategy for her marketing agency, Campaign Creators. Tammy has produced a 400% increase in organic traffic and 575% increase in leads shifting the main source of new business from referral and word of mouth to inbound lead generation. Tammy has a passion for teaching and mentoring which has lead her to providing an internship program for 3-5 students per semester. She has been sought out for her expertise by professional marketing groups, including HubSpot Academy, SD Inbound Marketing and San Diego's American Marketing Association. In her spare time, Tammy advise fellow PhD graduates on how to make a career move out of academics and into business and industry through her work with Versatile PhD. Tammy also volunteers her time to teach free implicit bias courses for organizations and teaches children business and finance skills through the Junior Achievement of San Diego's programs. You can reach Tammy at Campaign Creators: ***http://campaigncreators.com/***

INTERNATIONAL JOURNAL OF
CONTINUOUS BUSINESS IMPROVEMENT