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## The business strategy for service models to shift from Minimum Viable Product (MVP) to Product-Market Fit (PMF)

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### ABSTRACT

*The minimum viable product (MVP) enables organizations to promptly begin the learning process by integrating feedback. The concept of MVP has evolved over the years and its application is most often used in a start-up environment. The established organizations struggle to develop MVPs. The evolution of service models has come all the way from an on-premise service model to Software-as-a-Service (SaaS) model. The usage of on-premise or licensed software service is still around in this century considering flexibility to customize and data security within customer's firewall. With the risks involved, the on-premise model is not scalable in terms of security, loss of documentation or domain knowledge. This is where the cloud computing service models help to document every feature of each version of the software which makes it easier for the team to hit the ground-running. Much of the enterprise software are now moving to the cloud service models with the MVP approach to launch the key modules based on the market requirement. The purpose of this review is to provide a constructive model that is adaptive for managing products. Furthermore, the paper critically presents theoretical and practical implications linking the underlying business strategy. The details of this market validation approach are outlined in this article that supports organizations understand how the market validates value proposition and business model.*

**Keywords**— Service Model; On-Premise; IaaS; PaaS; SaaS; MVP; PMF; Cloud Computing

### 1. INTRODUCTION

The Minimum Viable Product (MVP) is a concept or technique from Lean Startup has been promoted to nurture product innovation in the early-stage startups focusing on product development, piling an invaluable customer base and raising a strong cash flow. However, the established organizations adapting this approach is challenging with structured operating policies and procedures. The MVP has been the focus of both business and product development activities in early-stage startups, to validate learning about the products with just enough features that can quickly communicate the proposals to public (includes potential users, investors, and mentors).

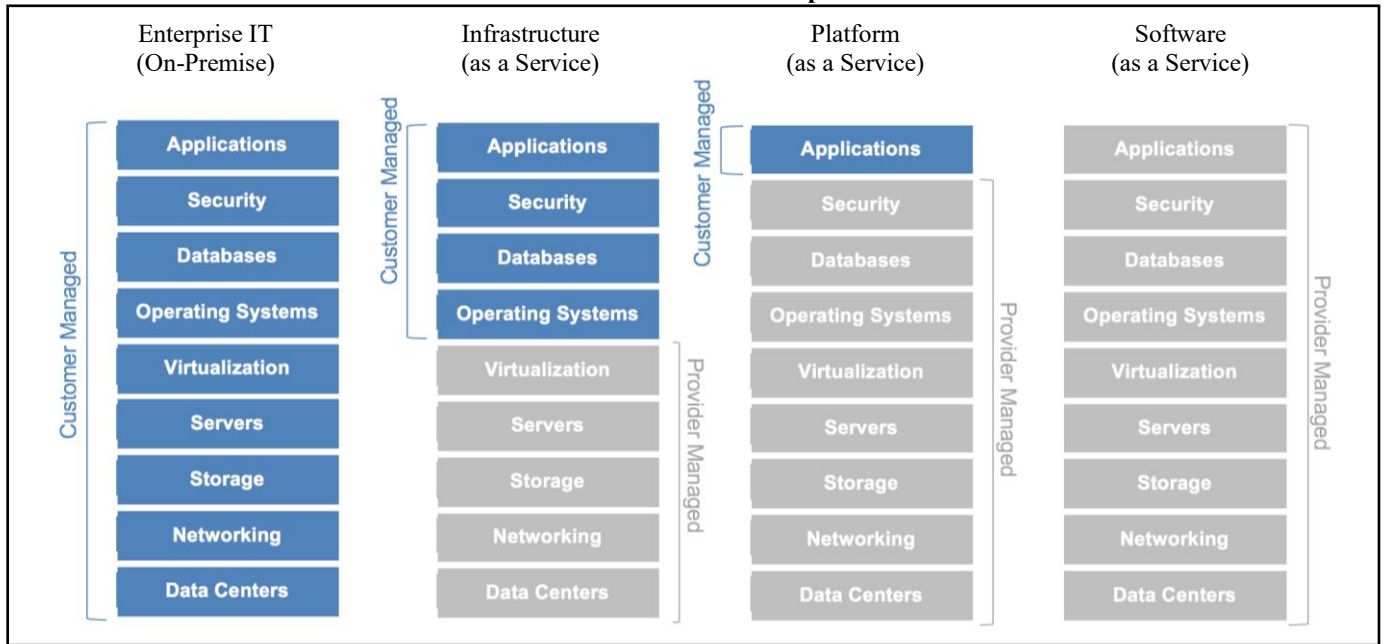
The MVP approach has helped organizations to remove information uncertainty about the market, their customers and has become the unorthodox wisdom to the early-stage startups. The literature has recommended shorter release cycles enable faster feedback loop from development efforts. This approach has two key objectives that can be expanded in future – i) amount of learning and reduction in uncertainty with minimum resources and ii) decompose the needs of the customer and enable product development in a scalable architecture.

The organizations must make sure the planned MVP aligns with the business objectives and there are two steps – understanding the strategic goals and what purpose the product will serve. These steps cannot be used if the organization is focusing on core markets, and perhaps the idea might need to be shelved if that's the current priority. This raises an important question for both the early-stage startups (easing the product development process with MVP approach) and established organizations (challenging the development process with MVP approach) – how should a firm organize its existing MVP approach to search for the product market fit (PMF)? It is important to note the word 'viable' in MVP, that means the product must allow customers to complete a task with high-quality user experience (UX). An MVP can never be a user interface with half-built features and should be a working product in the selling space. Are shorter release cycles enough to create and target the right market? Are there any other factors that must be considered? – the goal of this review is to reveal the importance of organization's vision and depth of customer engagement which uncovers the 'product' and 'market' stage elements.

**2. THE SERVICE MODELS**

The service models define the level of control on the infrastructure. This review paper will include the four common types of service models and compare across various parameters. The most important decisions revolve around how much a user wants to manage and how much their service provider wants to manage. The comparison helps to discover which service model will fit well with the organization needs.

**Table1: Service Model Comparison**



**2.1 On-Premise (On-Prem)**

With on-premise software, from implementation to running of the solution, everything is done internally; whereby maintenance, safety and updates also need to be taken care of in-house. Few examples include AutoCAD, Microsoft Windows 10, Adobe Creative Studio, Microsoft Office 2016 etc.

**2.2 Infrastructure-as-a-Service (IaaS)**

IaaS is fully self-service for accessing and monitoring computers, networking, storage, and other services. IaaS allows businesses to purchase resources on-demand and as-needed instead of having to buy hardware outright. Few examples include Amazon Web Services (AWS), DigitalOcean, Rackspace, Google Compute Engine (GCE) etc.

**2.3 Platform-as-a-Service (PaaS)**

PaaS delivers a framework for developers that they can build upon and use to create customized applications. All servers, storage, and networking can be managed by the enterprise or a third-party provider while the developers can maintain management of the applications. Few examples include Google App Engine, GitHub, GitLab, Kubernetes etc.

**2.4 Software-as-a-Service (SaaS)**

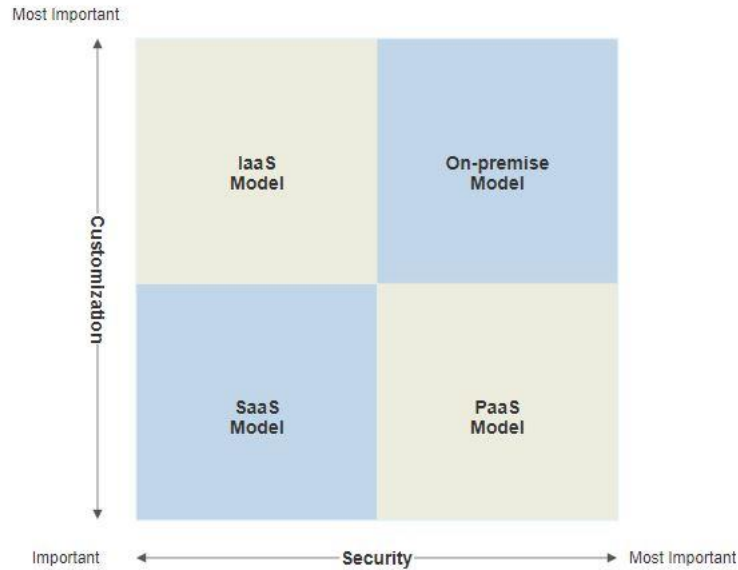
SaaS utilizes the internet to deliver applications, which are managed by a third-party vendor, to its users. Most SaaS applications run directly through your web browser, which means they do not require any downloads or installations on the client side. Few examples include Google Workspace, Dropbox, Cisco WebEx, GoToMeeting etc.

**2.5 Overall Comparison between On-Premise and Cloud Service Models**

There are various parameters to bring out the differences before a customer decides. The parameters are deployment, cost, control, security, compliance, maintenance, scalability, accessibility, and mobility. Furthermore, an organization should thoroughly assess the capabilities of its IT department to determine how well equipped it is to deal with the ongoing demands of the implementation. This personnel assessment is needed to ensure that the organization is equipped to maximize value on all fronts.

**3. THE FACTOR OF MINIMUM VIABLE PRODUCT**

A key point that is holding the MVP tag in each of the service models is to see what people do with the product offered than asking people what they would do with it. The On-premise service model is not 0% just yet and the same is with any of the cloud service models (not accumulating to 100%). The essential benefit of an MVP is you can acquire understanding about your customers' interest in your product without completely fostering the same. The sooner you can see if your product will appeal to customers, the less effort and cost you spend on a product that won't prevail on the lookout. It is easy to forget that there is still a role and likely in the future for On-premise service models, especially in large corporations and governments where the ownership of data and security are of greatest importance. Despite the limitations, the On-premise model still holds value. The MVP is simple, it serves the purpose of a particular business and in most cases, custom-built. The data transfer speeds, and security are the two key factors that keep this model alive in the market. Therefore, the MVP for the On-premise model is that the service will be preferred when most of the company's data are in-house. Here's a quick look at the matrix to understand the necessity and importance of building On-premise, IaaS, PaaS, or SaaS products.



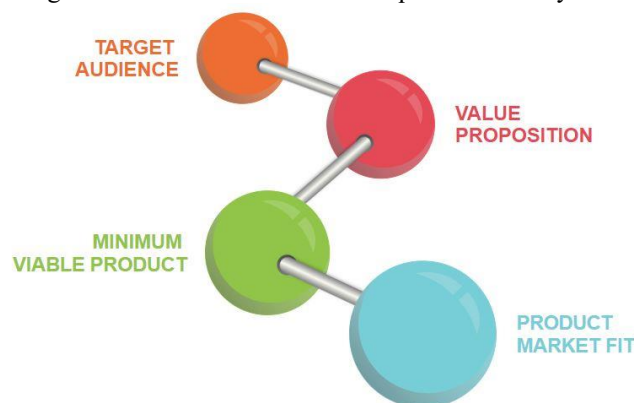
**Fig. 1: MVP for Service Models**

Let’s move down to cloud models and when a company needs IaaS? The corporations need this service model when customizations are in demand for the underlying hardware and software. If not on the customizations and there are specific security concerns looking for a private cloud or isolated databases. To conclude, the MVP tag for IaaS comes into the picture for companies that need increased security and complex customization. If your corporation has the need, resources and time to build the software but do not want to complicate with servers, networks and database management. The information management in PaaS with users alongside other companies using the platform, but the encryption and containerization features will segregate and secure the data keeping the MVP tag. This service model is a great fit for corporations that don’t have time to invest in ops resources. The last leg in the cloud service model is SaaS. This will be a go-to model when the corporations don’t care about who is building the software with consistent technical support, free updates and a subscription model which could either be monthly or annually. The SaaS still has an MVP tag even when the corporations build their own software but likes to have a set of operations including customer support, UX, marketing and billing purposes handled with third-party built software.

**4. THE RISE OF PRODUCT MARKET FIT**

The road to growth marketing starts from PMF. This tag for service models will be added when the product adds substantial value to a market segment. How does it work? The answer is when the company’s product has both qualitative and quantitative data to drive sustainable and rapid growth. Let’s look at some of the strongest indicators for a company’s product to be a PMF in its own style. The first one is ‘retention’ where the company can ask its users whether they like the product, which is strong proof to guide the leaders in measuring the right numbers and improves attention on the right metrics. The second one is an ‘electronic survey’ by asking questions that makes sense for the users. The third one is ‘face-to-face’ to understand the reactions in real-time and there is always learning at the end of this exercise. The fourth one is the ‘net promoter score’ (NPS) which leads to understanding the willingness and recommendation of the product to others looking to transform their problems. The fifth one is ‘referrals’ to know about the virality that happens only when the product is good at all times throughout their journey with a company. The last one is ‘product usage’ which is an extension to the NPS but adds a key element to track the utilization of core features leading to how the overall experience has been with the product.

The PMF could be deceiving, yet a demanding signal for the customers and venture capitalists before investing in a company’s product. The reason is simple, people need to get the following elements for their decisions – willingness to pay, strategic objectives and ability to scale as they grow. These elements will drive a smooth transition from acquisition to referral. In short, the product is no more showing a self-deception signal and is ready to be market fit. The MVP is no longer driving the market and is also a stage now to bring the final product meeting the market demands. Here’s a quick out at why we say that.



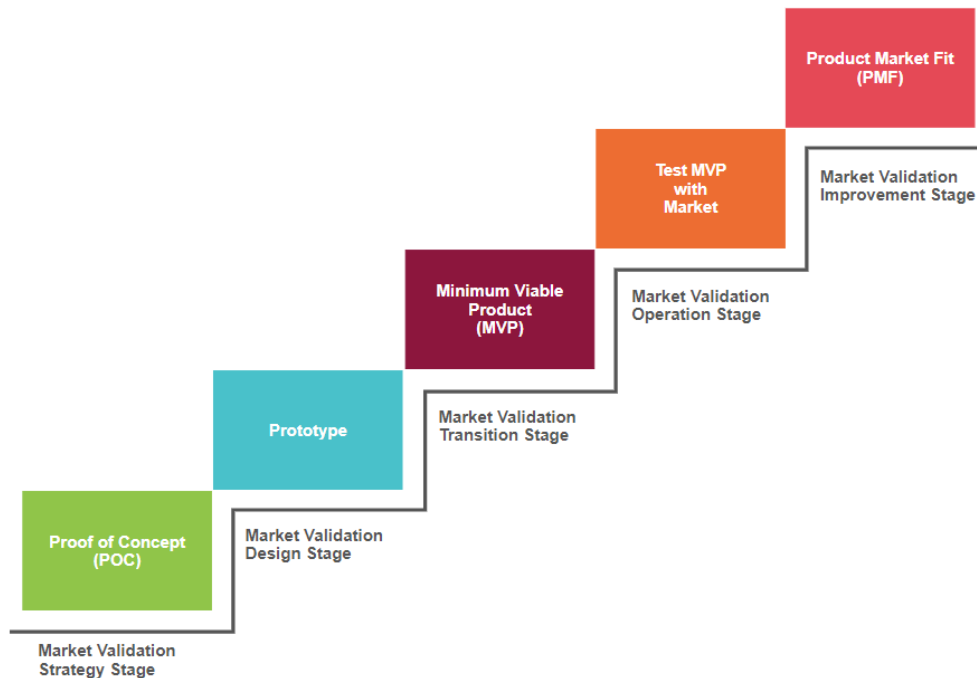
**Fig. 2: PMF Roadmap**

## 5. THE MVPPMF FRAMEWORK

The framework considers ‘market validation’ to be the critical factor to tick boxes of viability, desirability, and feasibility. The cloud ser-vice models have their MVP to release as needed. This transition from MVP to PMF is the core purpose of the ‘Minimum Viable Product with Market Fit’ (MVPPMF) framework.

The ITIL factor is a crucial factor here because of the powerful service cycle it offers. The ‘market validation’ is the concept to confirm whether a company’s idea is a solution to a problem market has. In this review, the market validation will begin from the ideation stage moves through the various phases to reach the goal of being a market-fit service model.

The feedback of this idea needs to be validated through your internal and external network. It is always good to consider the idea with triple F (family, friends, and other founders). If the idea is good to solve a key market problem, the next step is to design a plan and continue the market validation through the various phases of the framework.



**Fig. 3: The MVPPMF Framework**

The ITIL service stages play a role in this framework for one reason. The market validation of the service models will be applied with best practices which helps the companies to produce value-based products. ITIL also equips a service provider with a clear capability model, aligning them to the business strategy and customer needs.

In software development, ‘proof of concept’ is the first technical exercise to demonstrate that the idea is feasible. The output from this phase will help you to gather support from the company’s stakeholders but the potential customers will be restricted at this stage. The market validation in this phase will be more of a strategy check to use minimal time and resources. In short, a ‘yes’ signal goes to the production board or a ‘no’ signal goes back to the drawing board. This also differs between a startup and an established corporation, where the former can find it useful for initial seed-stage funding and the latter will get buy-in to proceed further and secure financing to build prototypes. The strategy stage of ITIL provides three processes – ‘service portfolio management’ introduces strategic thinking on how the product portfolio should be developed in future, ‘demand management’ introduces a strategic component which helps a company to predict customer demand and ‘financial management’ introduces a budgeting component that helps a company to plan, control and recover costs for the subsequent phases.

With POC confirming yes or no, a ‘prototype’ can give you the answers of how it will be done, how it will look and how it will be used by the customers. The prototype is a model of the future product to be built and helps the stakeholders to visualize the user experience. The level of functionality is based on the need. The elements of a prototype include wireframes, key specifications, feature map and user flows. If all the sections of a prototype are filled with functional and non-functional specs, the product is more likely to deliver as expected by the development team. The feedbacks are important in this stage to get the strongest market validations. The design stage of ITIL provides seven processes – ‘service catalogue management’ introduces an informational component which helps a company to document accurate product information for those to be run operationally, ‘information security management’ introduces a security component which helps a company to document the approach and controls to measure IT security at product and organizational levels, ‘supplier management’ to help a company ensure their suppliers fulfill the contractual commitments keeping the uptime above 99% at all times, ‘service level management’ to help a company gives an assurance to its consumers with an agreed level of support to be delivered when MVP is live, ‘capacity management’ to ensure a company’s utilization of resources reflecting the current and future needs of product as the market demands, ‘availability and service continuity management’ to help a company providing the agreed services in the event of disasters by introducing multiple data centers to reduce the risk acceptance level and planning the recovery processes.

The market validation that began before the POC phase answered the specific problem of the market. The POC and prototype phases concluded that there is a possibility to build a product as a solution to this problem. With this in mind, the company should build this solution. Eric Ries defines MVP as the 'minimum set of features necessary to engage with early evangelists to start the learning feedback loop'. This stage helps the company to build the minimum version of the product and share it with a maximum number of customers. The MVP also answers the question of being viable and the metric to measure it is simple, the customer's willingness to buy. If there is a customer base of early adopters that are passionate about the upcoming product and playing it to the fullest will create a loop to reach the larger group of audience. The market validation is in parallel and brings a new component within this phase, 'market viability'. The goal is to mark towards 100%. We all know that MVP is not the final product and the ongoing process of build -> measure -> learn will improve the overall value proposition and market viability. The transition stage of ITIL provides five processes – 'transition planning and support management' helps a company to plan and coordinate resources to plan major product releases within the predicted cost, time and quality estimates, 'evaluation management' is an assessment component helping a company to assess major changes of any substantial change to the existing product offering, 'service validation and testing' introduces any new feature release is meeting the customer expectations with the right support services and gives clarity on the purpose, 'knowledge component' helps a company to improve the efficiency of the product by sharing the adequate knowledge and information to the internal and external users and 'change management' to notify the downtime with minimum disruption to the production instance.

The next phase is testing the MVP. This where the journey of product-market fit (PMF) really begins. The company can now believe that there are customers to pay for the MVP delivered and, on the way, to become PMF. The MVP is a product launch and beta testing is usually done before this phase in most cases. With this framework, the 'beta testing' will be done after the MVP launch. In our review, we consider the MVP to be another prototype that needs to align the purpose with the target audience. This time, you should not be going to family, friends, and founders to share feedback. Instead, grant free access to your product features to anyone who you want to test it as potential users who could be a future customer. This ensures lots of consistency and clarity to the whole MVP testing cycle to qualify for the PMF tag. The operation stage of ITIL provides five processes – 'event management' to help a company is constantly monitoring the services and decide on the appropriate actions, 'incident management' to ensure the incidents are fixed by the company reducing the rate of disruptions, 'access management' introduces the pricing plan factor that can be shared by the company to be transparent in the market bringing the value-for-money tag, 'application management' is a checkpoint for all applications that enables the product to be seamlessly connected by the company and 'technical management' helps a company to create technical expertise and support in-house for infrastructure management.

The final phase to certify your product with a PMF tag. The businesses operate on a value proposition which is essentially a hypothesis that customers have found a solution to a certain problem valuable. There are metrics to qualify with PMF tag which include organic traction (non-paid signups), signup rate, conversation rate, sales cycle pace, product usage, churn rate and CSAT / NPS rate. When a company has a compelling vision and in-depth customer engagement to be on the higher side, then the product has hit the sweet spot of market-fit. The improvement stage of ITIL provides a 'process evaluation' that introduces a company to identify areas where the target-ed process metrics, regular benchmarking, audits and maturity assessments are periodically reviewed. The framework from this review paper has given two key outcomes for the service providers – i) use MVP for beta-testing to qualify for the PMF tag and ii) bring in the IT Service Management (ITSM) practices to the product management side of things by aligning with ITIL processes that are applicable.

## **6. CONCLUSION**

The road to PMF with this framework is not a destination, but an ongoing journey to consistently keep an eye on the market demands. The early and continued market validation is a key factor to pull the ideas that are feasible with a POC and prototype. The MVP is not the product for your customers, but it is the beginning of the product's life product development and management nests. The framework enables the company to use metrics for measuring the progress that ensures the solution is continually improved which makes it for the customers to pay for it.

The next phase after PMF is a question for everyone, but it is available to explore. The answer is 'scaling up'. Before MVP, the product was focusing problem-solution fit and after MVP, it primarily focuses on vision-founders fit. The MVP is used in the beta testing phase to bring out the product-market fit results. Up next, the company will establish and strengthen the product's presence after getting certified with PMF tag through the formation and validation that has been completed by the users and potential customers. The success leads the product to be treated as a business model and market fit.

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## **8. DISCLAIMER**

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