

# **INNOVATIVE PRODUCT MANAGEMENT HANDBOOK**

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\*\*Please note that even though this is comprehensive, it is still high level and every facet of Product Management can be specialized in. Many books have been written on any one topic mentioned and I am perfectly aware that this is a suggestion of methodology. After all the successful Product Manager works under the presumption that new information can prove all of your assumptions wrong at any time.

### **IDEAS and Innovation:**

Ideas will come from everywhere. Market research is not always the answer. The customer is not always the answer. The best approach is not always traditional. Sometimes the best solved problem is the one that the prospective customer doesn't know they have. This product management philosophy is designed to find and test ideas for viability quickly.

For the risk averse it is difficult to tolerate failure and obvious risk. In innovative product creation we must change our idea of what failure is. For instance, a perfectly engineered product that takes two years and is either too late to the market or found to be irrelevant is an ACTUAL failure.

As opposed to two weeks of investment and critically considering a viability experiment and/or minimum viable product and finding out that the idea will or will not work.

Even if the product is found to be unviable or failed in the second model we can quickly move to something else.

This philosophy works for all types of products in a larger sense, however I have used software development as my example, even though it can be applied to manufacturables as well.



## Product Development Process/Lifecycle High Level

- I. Conceive**
  - a. Collect user problems and solutions
  - b. Comes from employees, metrics, users, clients, competition
- II. Plan**
  - a. Market Research
  - b. Comes from customer interviews, surveys, tech trends, tech blogs
- III. Develop**
  - a. User profiles, user stories
  - b. Backlogs, to dos, requirements gathering, projects, sprints
  - c. MVP (minimum viable product) if new
- IV. Iterate**
  - a. Early feedback and testing
  - b. Alphas and Betas (or outright A/B if testing web interfaces)
  - c. Bug Fixes and feature suggestions
- V. Launch**
  - a. Marketing/Sales/PR/Legal
  - b. Public Reaction and metrics plan
- VI. Steady State**
  - a. Hold and/or iterate
  - b. Collecting metrics and optimization
  - c. Marketing and Sales Campaigns
- VII. Maintain or Kill**
  - a. Uses all previous data
  - b. Metrics
  - c. Market analysis
  - d. Profitability/projections
  - e. Company vision/market circumstance

## STAKEHOLDERS WITHIN THE LIFECYCLE CONSIDERED IN PRODUCT MANAGEMENT

- INTERNAL
  - SALES
  - MARKETING
  - ENGINEERING
  - DATA SCIENCE
  - PROJECT MANAGERS
  - ENGINEERS
- EXTERNAL
  - CLIENTS
  - END USERS
  - PROSPECTS

The Product Manager's Job is to remove the stops for all other segments he/she interacts with. It is their duty to facilitate people doing work to their highest potential. The Product Manager is a compendium of information, collecting from many sources (engineering, marketing, sales, customer service, users, clients, project managers) and making informed choices/pitches using said information. If something is unknown they will attempt to verify through validated learning; intelligent tests and metrics. The Product Manager learns to live in failure and success and can speak the language of all members of the various teams. He/she facilitates, but does not impede while attempting to maintain the vision laid out in the Product Roadmap and the company.

The overall product cycle consists of constant iterative development through project management. The product development lifecycle therefore, truly consists of several smaller iterative cycles which feed into one another including information provided by all of the stakeholders above and thus creating an overall positive feedback loop in which each iteration is an opportunity to gain efficiency and increase quality and value of the product(s) and business.

**This process is shown at a high level in a flow chart on the next page.**

**\*\*As a Product Manager the first thing that you need to know is that you know nothing!!!**

All choices are to be made through validated learning. This is a concept in which all things are thought about critically. All assumptions are approached with the knowledge that you could be wrong.

Everything must be testable and measurable in some manner.

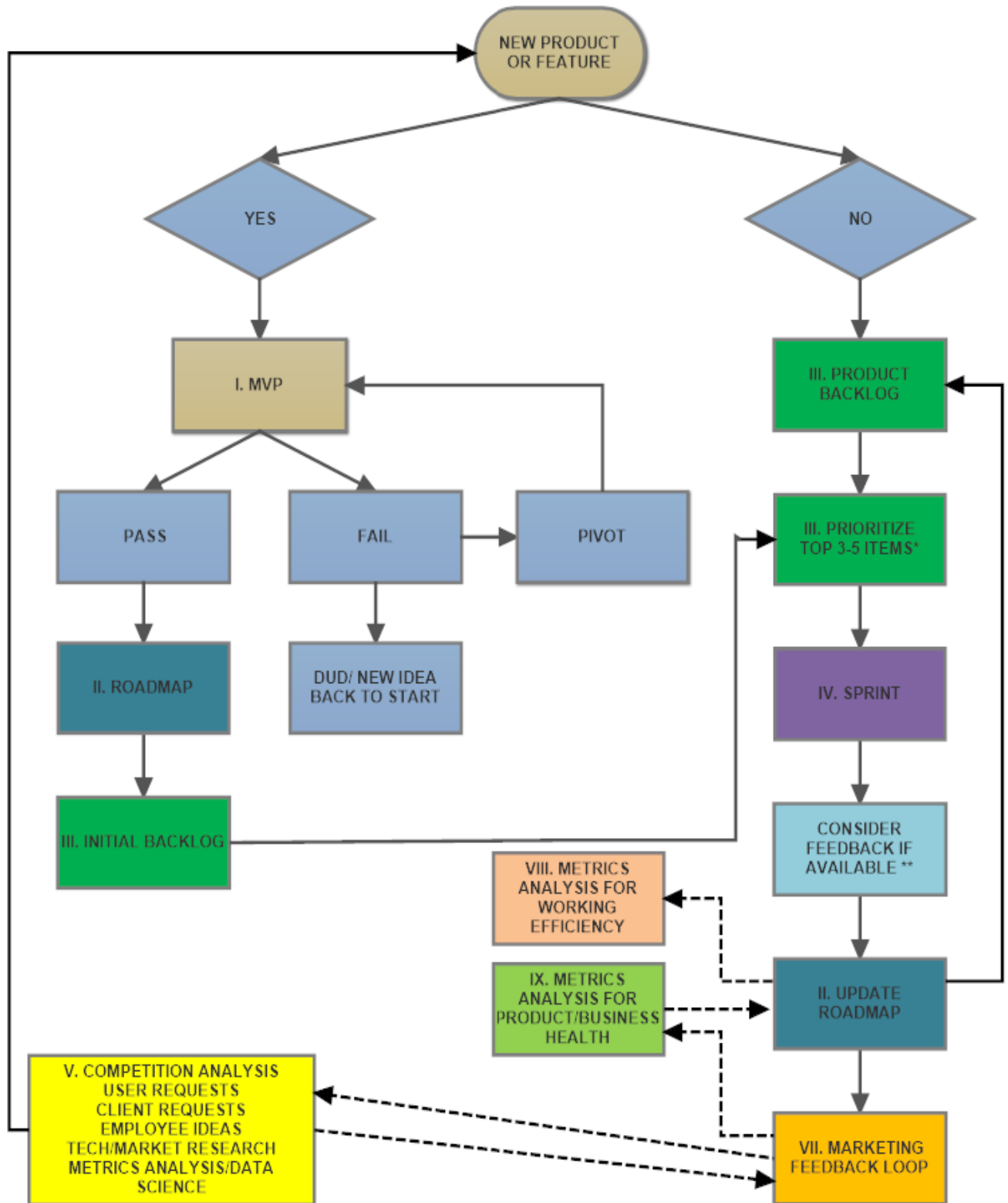
**Failure will occur often.** This is not a problem. The problem is when one invests too much time on something that could have easily been changed/pivoted given the proper validated learning.

Validated learning is what guarantees that the positive feedback loop generally trends towards better efficiencies and progress.

**\*\*This concept is discussed and is the point of the book "The Lean Startup" by Eric Ries.**

**As a rule every person associated with a tech related business (any business in my opinion) should read this book.**

## PRODUCT MANAGEMENT FLOW CHART



Process/Resource “VI” is a resource listing for tools to use during the rest of the process flow.

## I. Minimum Viable Product

How to determine whether or not something is a viable idea in the first place?

As a start:

Whittle the idea down.

Go niche at first.

Eliminate feature bloat and focus on top tier problems.

When you have these problems and a prospective solution go through the MVP process to determine viability.

Begin at the beginning and go to each step of the process. If the idea doesn't pass one portion it does not mean it is dead! It needs tweaking. Attempt to adjust the idea to pass the test. If you cannot do it after 3 tries, start another idea

**5 Point Sniff Test:** Create a matrix of 5 Points and rate them all 1-10 (30 or higher is worth pursuing)

- a. Pain to Payment Ratio
  - i. Is it a big pain point?
  - ii. Will it pay a lot or a little?
- b. Matching Fit for Stakeholders/Company
  - i. Skills/Competencies
  - ii. Experiences
  - iii. Passions
  - \*A bad idea that matches you is better than a good idea that doesn't*
  - iv. Connections
- c. Sustainability
  - i. How long term is the business?
- d. Path to Validation
  - i. Can I get validation with minimal difficulty
- e. Unfair Advantages
  - i. Do I have any secret knowledge or some kind of edge?

**Once Sniff Test is completed build a Hypothesis:**

I believe "Potential Customer" will "Do Something" because "X".

**Then identify your riskiest assumptions:**

List things that must be true in order for the idea to be successful.

Possible examples:

1. The customer has X,Y,Z problem
2. \_\_\_\_\_ matters to the customer
3. \_\_\_\_\_ group will pay money for my product
4. There are no satisfactory substitutes

Then take the biggest one(s) and structure your future experiment will be structured around this assumptions:

**Identify the minimum criteria for success.**

Popularity: Number of shares, likes, signups

Profitability: Gross Profit, Longterm Value (Lifetime Value > Cost per Acquisition?)

**Drill Down on Potential Customers:**

Create a matrix:

My solution does function 1, function 2, function 3,...

and solves problem 1, problem 2, problem 3...

for person/group who benefits 1, person/group who benefits 2, person/group who benefits 3

**Triage the list from the above matrix**

Identify the top problem it solves and select 3 customers who this solves the problem for (theoretically who you think this will solve the problem for most quantity wise)

**Take the top 3 users from the above triage list** Take into account Geographics, Demographics, Psychographics, Business model (for B2b).

And build 2-3 user profiles per customer type (this will be done for all significant user demographics once established).

\*\*If you are selling B2B do this for the prospective person/business who will be doing the purchasing.

Example:

Mr. John Doe:

Age

Urban/Rural

Location

Marital Status



Children  
What they like  
What they don't like  
Where they get their info  
Why they might like your product  
Personality Traits  
Ethnicity  
Income Range  
Anything possibly relevant

**Competitive Analysis (should be done regularly outside of MVP as well):**

Top down: estimates size of total market and what % could possibly be yours (often times a little too optimistic)

Bottom Up: Current Sales of similar products and how much you think you can capture.

Where is the app being sold?

Volume of sales for similar apps or software?

You can google "industry/market....report/study"

Compete.com compares competitor site traffic

Google Adwords keywords tool

Twitter and Reddit

Quora

Yahoo

App Annie

Collect info on your top competitors or similar apps:

Important to know the market size generally

Many competitors? People doing it better?

No competitors? No customer demand? True original or not a good problem?

What are the competitors doing, what do they look like, what are they offering?

Keep a spreadsheet and create columns for relevant categorical information on your competitors.

For Example Unboxed Technology (specializing in a LMS platform) would perhaps like to keep tabs on:

1. Cornerstone
2. Grovo
3. Schoox

4. Lumesse Learning Gateway
5. Paradiso LMS
6. Firmwater LMS
7. Litmos
8. LearnCore
9. SelectSuite
10. Essential Learning Management

Search for things by channeling the user. How would your user personas search for a solution or info about a problem?

You'll find companies that use that verbiage, individual complaints, forums

How big is the competitor? How many customers do they have? How well funded are they? How many employees? What is their outlook? Do customers like them?

What strategies don't they utilize that you can capitalize on?

\*\*You can search in google for "site: website" where "website" is replaced by the url of your choice and it will show all references to the site in your search.

\*\*Be quick, be objective, and establish the lay of the land.

Consider a mass communication to interview people with problems, customers, influencers, product experts to gather information.

### **Creating a pitch experiment:**

Now that the information is all gathered and analysis done, you should be able to construct a worthwhile pitch experiment.

This pitch experiment could be a mass email, a mass phone message, or a mass targeted ad (at one or all of your user personas), or a landing page that seeks to do one of 3 things. Don't pitch in person to individuals, and don't pitch to people you know personally as the data will be skewed.

Get 1 of 3 levels of validation (from weakest to strongest):

1. Gives email address and subscribes
2. Gives Personal Information
3. Hits a "buy" button

If decent success is achieved through this pitch then you should upgrade the pitch experiment.

### **Upgraded pitch experiment**

Do a bit more research. Add more meat to the page or resource.  
Add FAQ section.

Add risk reversal statements like money back guarantees.

Add to the about us, add a picture and write your story.

Add social media.

A/B test a few layouts.

Run the experiment.

If your results validated results are still successful you have successfully gone through the MVP process and it is time to consider making a true business plan and a product roadmap.

\*\*There are many ways to arrive at a MVP, this is just a small example. The point is that for a minimum viable product (and truly any new feature) there are clear, quick, and measureable ways to test your assumptions about your choices. Doing this as quickly as possible allows you to minimize time with things that will ultimately fail. I recommend that the same approach be taken to all choices, in a gather information, form hypothesis, make conclusion, adjust and retest or abandon format.

## II. Roadmapping

Roadmapping really simply put is an outline for the product development lifecycle.

It is a meta project plan at the product level which takes into account the product backlog, intended overarching business rollouts, planned updates, and general timelines for the life of the product.

Like traditional project management they take into account resources, teams, timelines, etc.

Milestones on this project plan are in and of themselves entire projects.

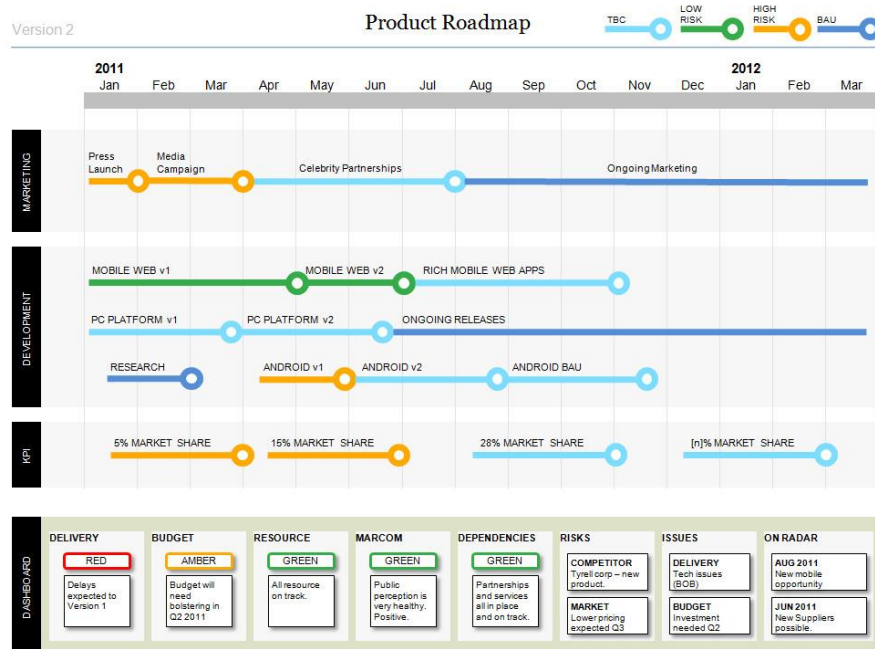
This roadmap is updated after each new sprint, each new round of information and prioritization, and after each major business forecast and initiative.

The roadmap may consist of a singular product, or an entire product line.

The roadmap may very well consist of several roadmaps for different products and there may be an overarching business level road map.

Example image below from a popular product roadmapping company AHA!

\*I highly recommend reading articles posted by their CEO Brian Dehaff.



(<https://s-media-cache-ak0.pinimg.com/originals/b8/28/de/b828de355890c47ecf336a17a617b70c.jpg>)

### III. Product Backlog and Prioritizing

The product backlog consists of all bug fixes and additional features intended for a product. The features and fixes may be lumped together at the roadmap level in order to comprise of a larger patch or version update, or may be rolled out as smaller updates.

Any app will be filled with bugs and feature requests that come from various sources.

A product manager must be able to prioritize the backlog in order to roll out the most important and/or impactful features and fixes first.

It is easy to say no to bad ideas and difficult to say no to good ideas that do not end up being as impactful as we would like.

Additionally the product manager has to balance the “new and shiny” features with fixing what is already there.

Every feature added or removed must be thoroughly vetted for possible consequences and impacts to other areas of the software. This is why proper change management is so important in any software/app/web company.

Also ensure that the features requested are vetted at the request level too. What I mean is that the customer is not always right!!!

The customer does not necessarily know what they want. They are requesting a feature to solve a problem. Before we as product managers blindly add a feature make sure to use the “5 why methodology” on all feature requests. Ask why until you get to the root cause of a feature request (particularly with end users).

Ex: if your friend is in the rain and keeps asking for a towel because he is wet, and you blindly give him a towel, you are granting his request but not solving his problem. What you need to do is get him out of the rain.

With the features that make sense and are left over place them through the smell test as discussed in the MVP paying particular attention to whether or not the feature makes sense given the overall product lifecycle, the prospective value to the company, and to the customer. Are you fixing something important? Are you removing steps, streamlining? Is it intuitive?

If it passes the sniff test I also like to do what is called Anthony Ulwick’s prioritizing model which is importance (on a 1-10 scale) + [importance – satisfaction (on a 1-10 scale)] .

If you take the top sniff tests and then prioritize them using Ulwick’s model you will always have the top most impactful and most satisfying features to work on.

**\*\*New product and features will be approved by senior staff. The best way to argue a case for something is with numbers and hard data.**

## IV. The Sprint

Once the backlog is prioritized, the Product Manager(s) can take teams and begin working on the priority features. Depending on the size of the teams and resources available it is recommended that you stay within the 3-5 feature range. This number can be less given the size of the task, but too many for any one team can be difficult to do and plan for given the standard 2 week sprint.

### A. Sprint Plan

At the beginning of the Sprint after backlog prioritization the Product Manager(s) will address and get the feedback of all stakeholders and address the following issues.

How much time will any one task take?

How many people will it take (which departments, etc.)?

How much will it cost?

Finish risk analysis and impact analysis for all new features. (Will adding or removing something have unforeseen consequences)

Proper change management addressed.

Metrics for success agreed upon.

Project plans created, input of project managers and/or dev teams.

The Sprint plan is completed with the intention of completing or reaching certain milestones within the two week period.

Project plans will be completed and approved and backorder will be updated.

Every Sprint may consist of multiple project plans planned and handled as independent projects.

Then the Sprint actually begins officially.

### B. Daily Meetings

Each day starts with a standup meeting in which members of the teams state:

- What they are working on

- What problems they are experiencing
- Requests for help
- Any relevant information effecting timelines and budget
- Expectation of completion for current task
- What the next task they will be working on

### **C. Weekly after action review/End of Sprint retrospective**

The end of each week results in an after action review to state progress and check timelines in a more comprehensive manner.

The end of the two week review is more comprehensive in which we discuss:

- What was officially completed
- Problems experienced
- Deviations that occurred
- What was learned

This will result in metrics as well as all information which will feed into updating the roadmap once again, reprioritizing features, and planning for the next two week sprint. Some features may not have been completed (or in fewer cases are outright abandoned) and this will reflect in the next round of Sprint planning.

This is of course an agile methodology and a scrum board can be utilized for each sprint. Some companies may opt to use Kanban methods for completing features but this is not appropriate for the lean methods and quick iterative changes that are often needed.

**\*\*Kanban (and a Kanban board) can be good for fully planned new products, full version changes, or customer service centers where there is an unknown number of tasks to be done or a continuous list with no foreseeable end.**

## V. Centers of information and where the next ideas come from

At the end of the Sprints you as a product manager will have been given a plethora of information from many sources to start thinking about what needs to be the next vetted idea.

This could be a new idea, a bug fix, or a feature. Using information at your disposal you should challenge the information, use the data to validate or eliminate issues or requests, or to pitch the next idea.

The ideas, fixes, features, etc. will then be placed through the same product management flow chart.

Where does your information/ideas come from?

- **After action Reviews:** The direct result of your Sprint can uncover many issues and spawn ideas
- **Metrics Analysis/Data Science:** All of the collected information should result in metrics which are measurable features of a product. In a website this may be how much time a user spends on a particular page, or how often something gets clicked given a different layout placement.
- **Competition Analysis:** Should be done often (monthly or quarterly and definitely at the beginning of a new idea). This can spawn many ideas and feature requests.
- **Tech/Market Research:** Data from tech trends or market research can result in new ideas.
- **Client Requests:** If the solution is custom a client will request a change to the expected outcome or range of functionality of the solution.
- **User Requests:** If the user directly notes a bug, or a desire for a particular change it can result in a feature or fix. \*\*\*Please note that a Client is not the same as a User. A client may make a similar request as a user however often times a client is who needs the solution to provide a particular functionality or outcome whereas the user is the person actually using said solution. Often times user requests will come in by way of the customer service department.
- **Employee ideas:** Your software developers, marketers, customer service reps, project managers, product managers, sales reps (any stakeholder) might come up with an idea

For all of these sources (especially the people sources) one should always go through a “5 why analysis” in order to arrive at the root cause of the request. As stated previously, blindly granting a request does not necessarily give the user what they need.

\*\*A note on Data Science. Product Managers should be versed in the language of most sections they interact with. Tenets of analytics and data science should be something that they should consider as well. Taking a course on data science is useful to anyone using validated learning to make future choices.



## VI. Resource/Tool Listing for research and analysis

### **Web Analytics:**

Google Analytics

Google Adwords Keywords Tool

Hubspot

Hotjar

### **Search Tips:**

Using “site:website” to search for instances of a website

Using quotation marks to search exact phrasing

Using phrasing of user profiles

### **Market Research:**

Google Search

Yahoo Search

Yahoo Business Search

Google News

Quora

Reddit

Twitter

Company Websites

Company Social Media Sites

Compare.com

App Annie

## VII. The Marketing Feedback Loop

Marketing is a key resource to the Product Management team. They work hand in hand with the Product Managers in strategy as they can help to validate assumptions as well as promote details.

The best form of marketing is one which educates the customer on a particular topic and specific problems related to said topic. The hope is to drive a narrative through education which targets the user profiles that are created for our customer base.

There are several ways communicate this information to the users:

Targeted ads intended to draw user profiles to blog articles, directed forums, sign up pages, landing pages, white page downloads.

Marketing should also be part of the validated learning process with targeted experiments (using a/b testing, surveys, mass emails/communications) to collect data and spread the knowledge of the product.

The narrative starts with education, and ends with discussing solutions for said problems (including many options but of course highlighting your own). Building trust is key and this leads to sales. A good campaign inevitably leads to more traffic, more questions, hopefully more predicted customers, and enough customers of different demographics then predicted (peripheral customers) to justify more user profile creation and more targeting.

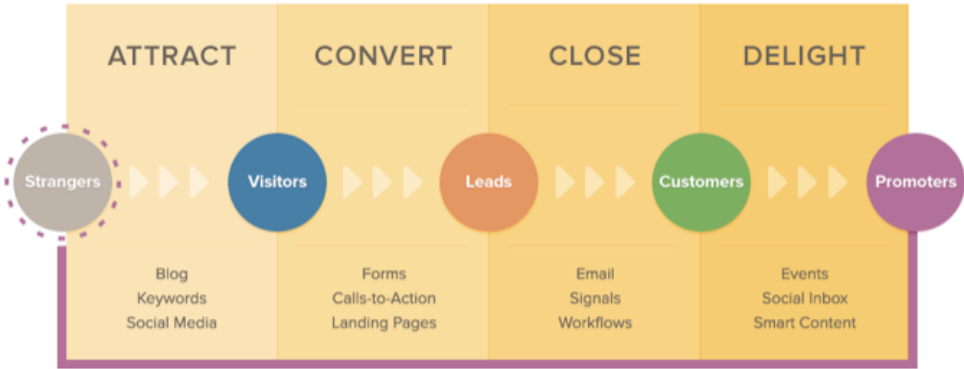
The feedback received from all of this helps to zero in and become more effective at selling the current product while simultaneously feeding valuable information into the Product Management flow and ultimately influencing the direction of the roadmap. This is a never-ending process.

I would recommend going to [udemy.com](https://www.udemy.com) and taking a highly reviewed course on marketing and content creation.

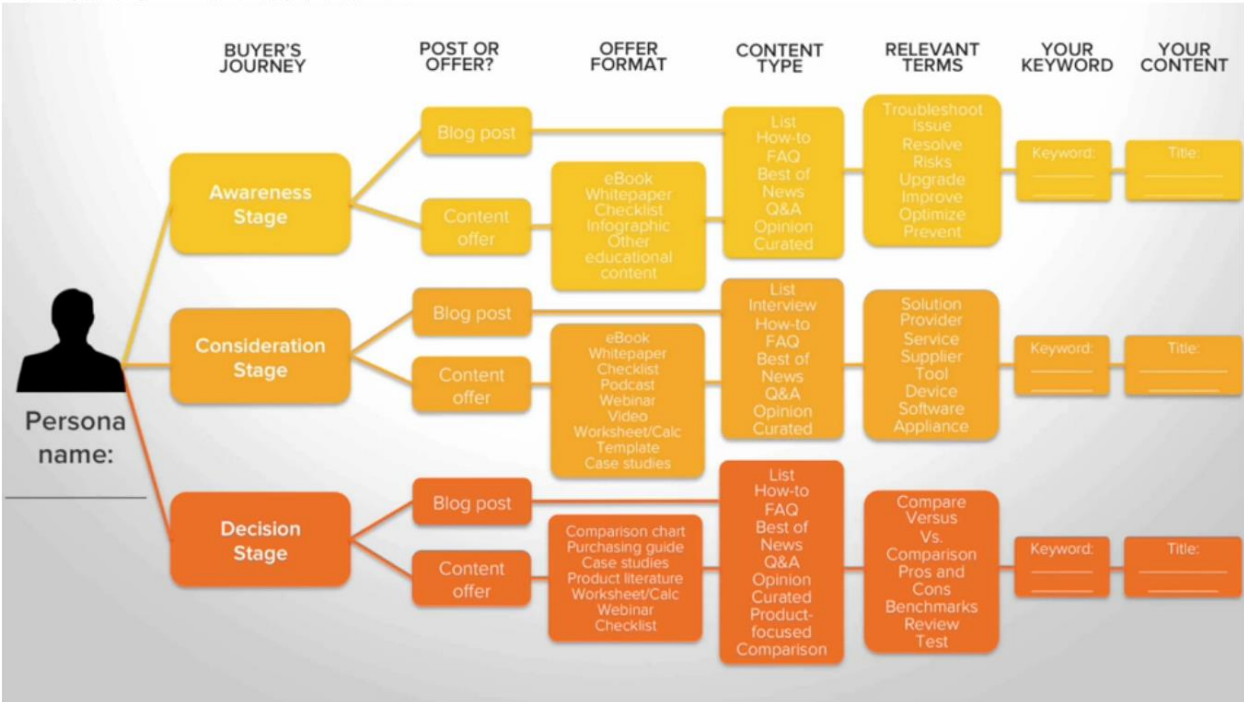
I would highly recommend also going to Hubspot academy and taking their free certification course on inbound marketing certification which educates this strategy in depth. It dovetails nicely with Product Management. (<http://certification.hubspot.com/inbound-certification>). The course ultimately used their platform but the principles used are universal.

# The Inbound Methodology

The best way to turn strangers into customers and promoters of your business



Source: HubSpot



## VIII. Metrics for Analysis for Working Efficiency

These are metrics derived from the working process. They assess the operational effectiveness as a business (not necessarily the profitability).

- These can be things like number of verified bugs reported: Cleanliness of code
- Estimated task times versus actual time: Let's me know how good we are predicting our work and allocating our resources.
- Feature usage analytics: Do features in place get used?
- Customer Complaints

Any numbers used through setting targets and measuring against them lets you know how efficiently your teams are working.

## IX. Metrics for Business Health

- User adoption (How many people are buying)
- User Engagement ( Are the users actually) using the solution. It is best if you can have this down to the feature in order to troubleshoot underused functions.
- Growth Metrics for Websites, Social Media Accounts: New users, monthly active users, number of messages sent, time spent engaging, newsfeed position, shares and likes.
- Contracted Monthly Recurring Revenues and Revenue per subscriber.
- Customer Churn: The rate at which I lose old customers and gain new ones.
- Cost of Customer Acquisition (Cost of marketing and sales expense in a given time period) Versus Customer lifetime value (Monthly Revenue Per User times Gross Margin all divided by Customer Churn)
- All of the above plus direct customer feedback and market research tells us the outlook for the business.
- Gross Margin
- EBIT