

Erlang and the Chasm

A tour of the interaction between engineering and marketing

Torben Hoffmann
Product & Research Manager
Erlang Solutions Ltd
@LeHoff

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The Link to Architecture

- Understanding how your customers think is good for engineers
- Non-obvious customer needs can be easy or hard to implement depending on your engineering choices
- Having a common vocabulary across the organisation will make communication better

Model: Crossing the Chasm

- “Crossing the Chasm” by Geoffrey More
 - Marketing and Selling Disruptive Products to Mainstream Customers
- 1st edition in 1991
- Revised 2001
- Makes you think
- Not a Silver Bullet

Use Case: Erlang and friends

- Presenting a model without personal use cases is dull
- Erlang fits the notion of disruption very well
 - Erlang has great benefits, if you are willing to change parts of your technology stack
- Erlang shows signs of “being in the Chasm”
 - Eco-system not as mature as, e.g., Java
 - A number of people have had massive successes with Erlang, but mainstream penetration is has not happened yet

slides[<your favorite tech>/Erlang]

Technology Adoption Life Cycle

The Technology Enthusiast



Source:

<https://en.wikipedia.org/wiki/File:GyroDisney.jpg>

The Technology Enthusiast

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- Great critics 'cause they really care!
- Gatekeepers for new tech
- Want the truth – no tricks!!
- Want the latest stuff...
- but it has to be cheap!



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The Visionaries



Source:
[https://en.wikipedia.org/wiki/
File:Steve_Jobs_Headshot_2010-CROP.jpg](https://en.wikipedia.org/wiki/File:Steve_Jobs_Headshot_2010-CROP.jpg)

The Visionaries

- Driven by a “dream”



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- Understand their dream and you can market to them



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The Pragmatists



Dana Scully (X-Files) as
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- Likes standards
- Expect to live personally with a technology choice for a long time



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The Conservatives



Comes in all shapes and forms.
I went for a Palm TX instead of
a smart phone in 2004.
We can all be conservative in
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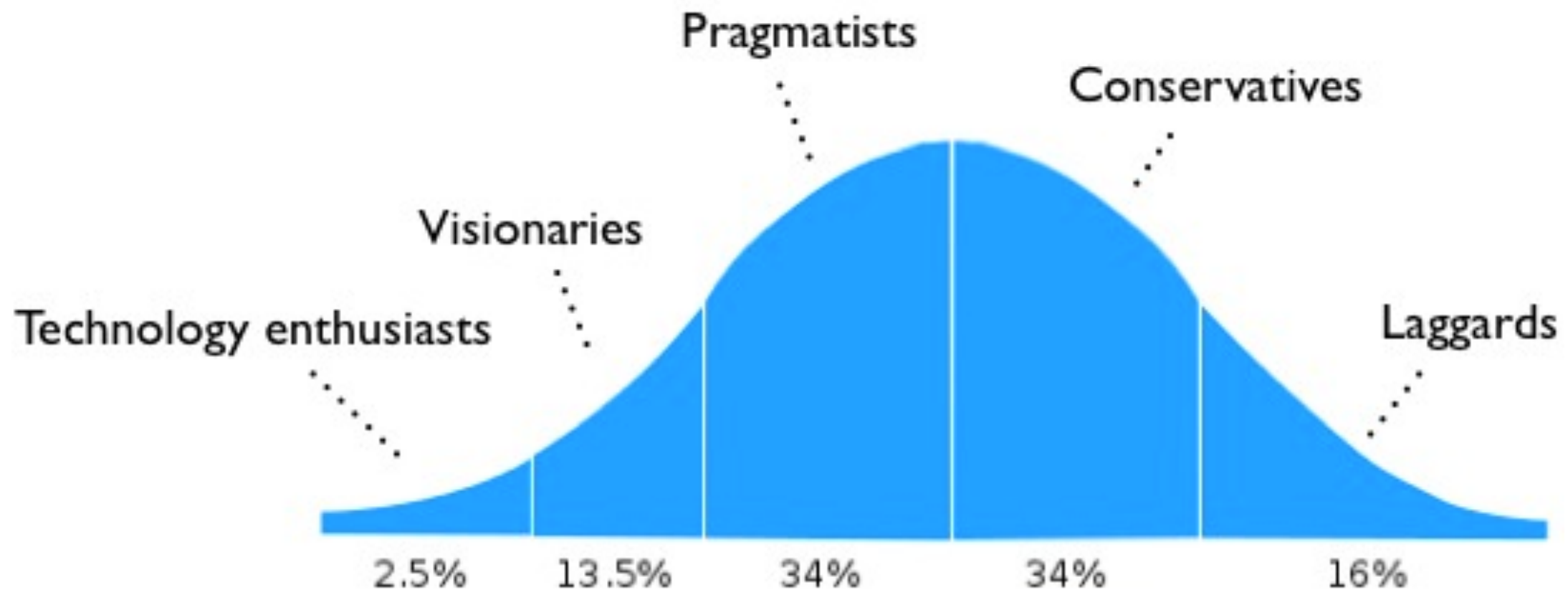
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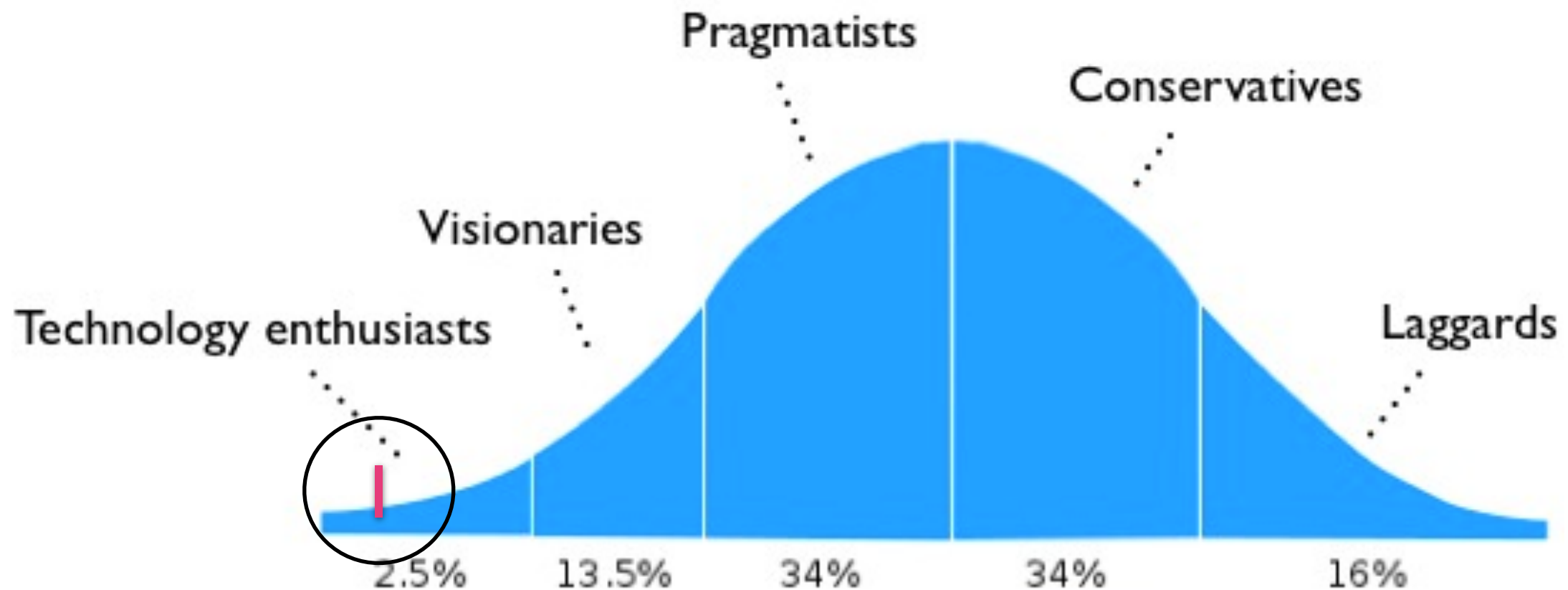
In Theory...

- You conquer the TALC group by group in one smooth motion



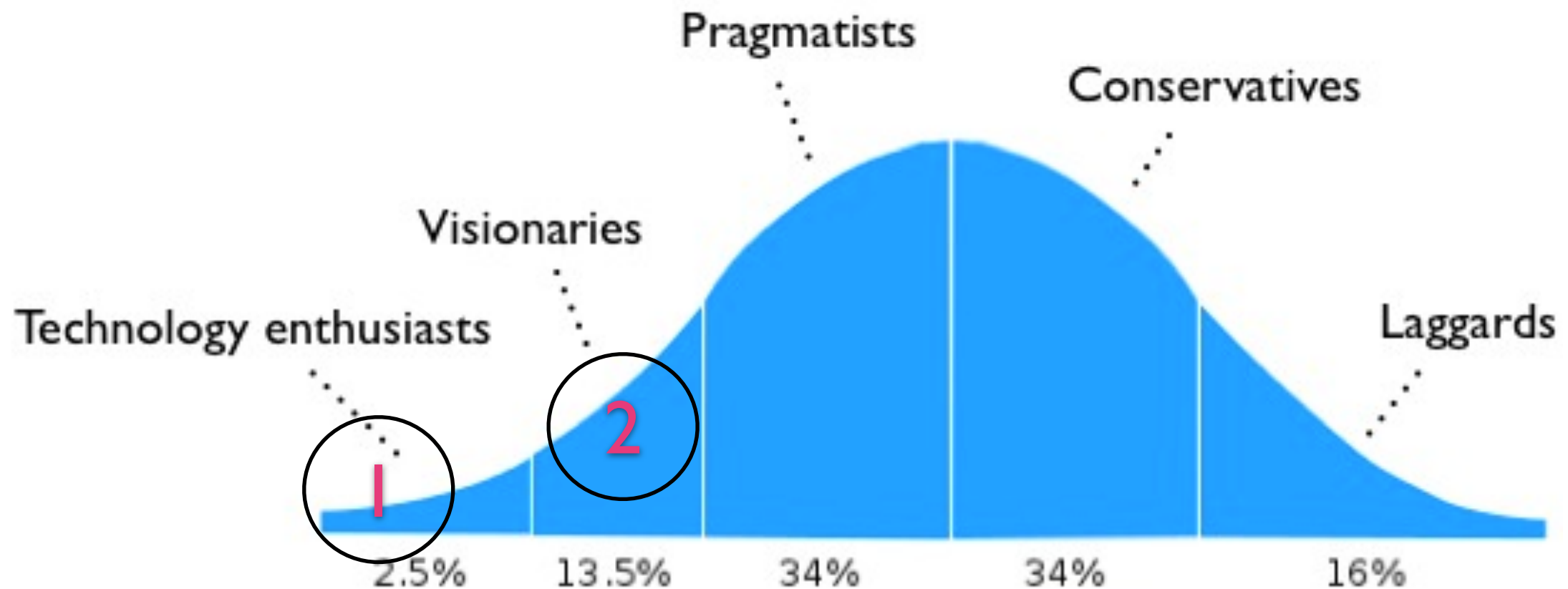
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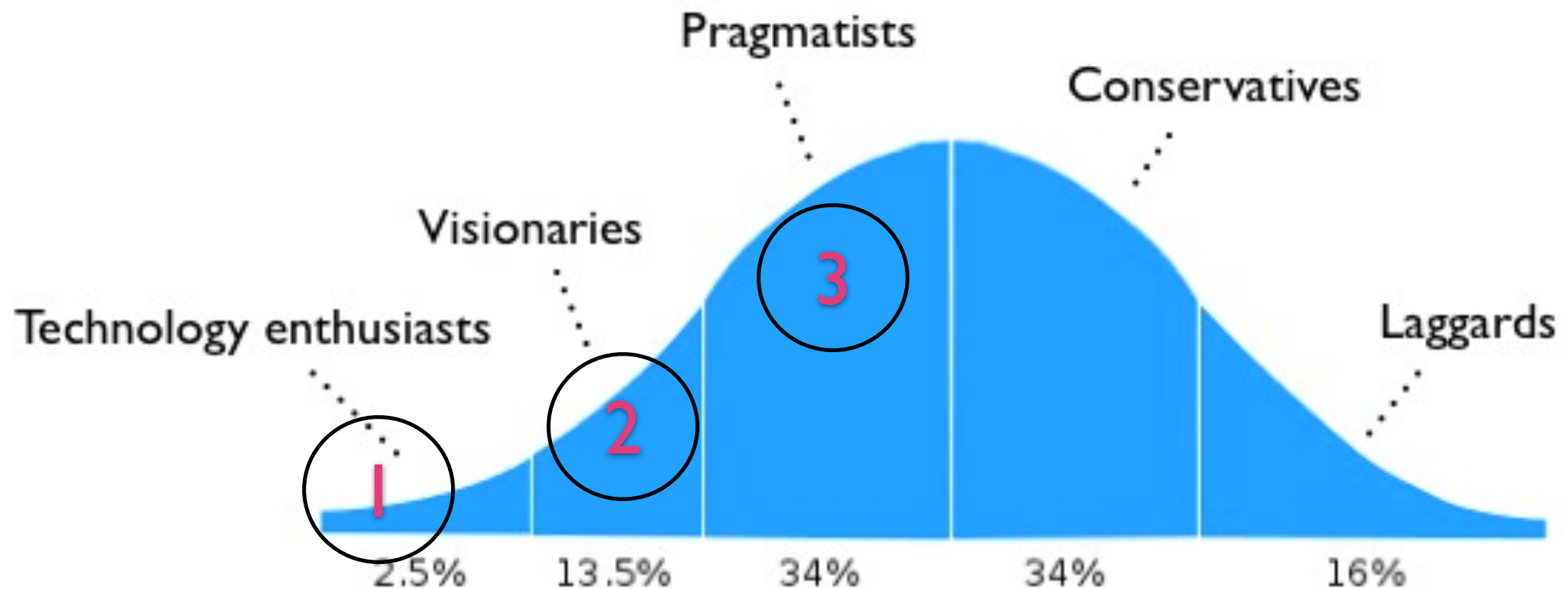
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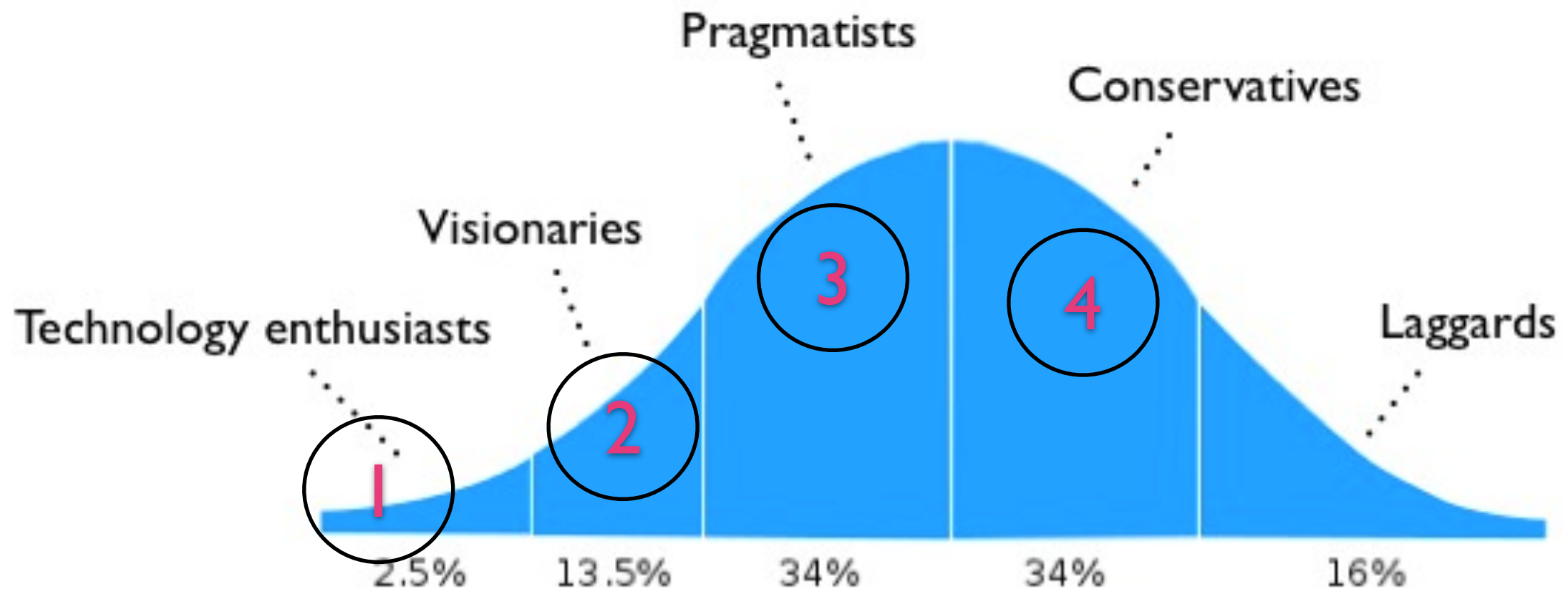
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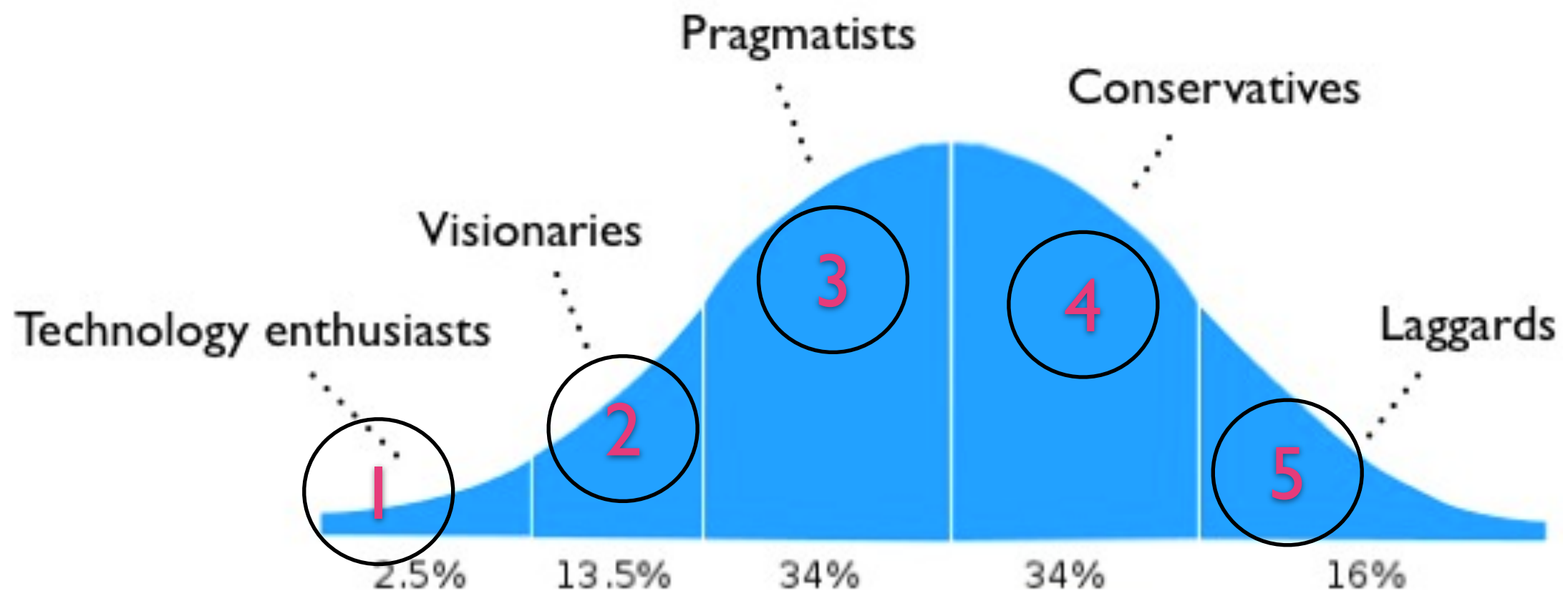
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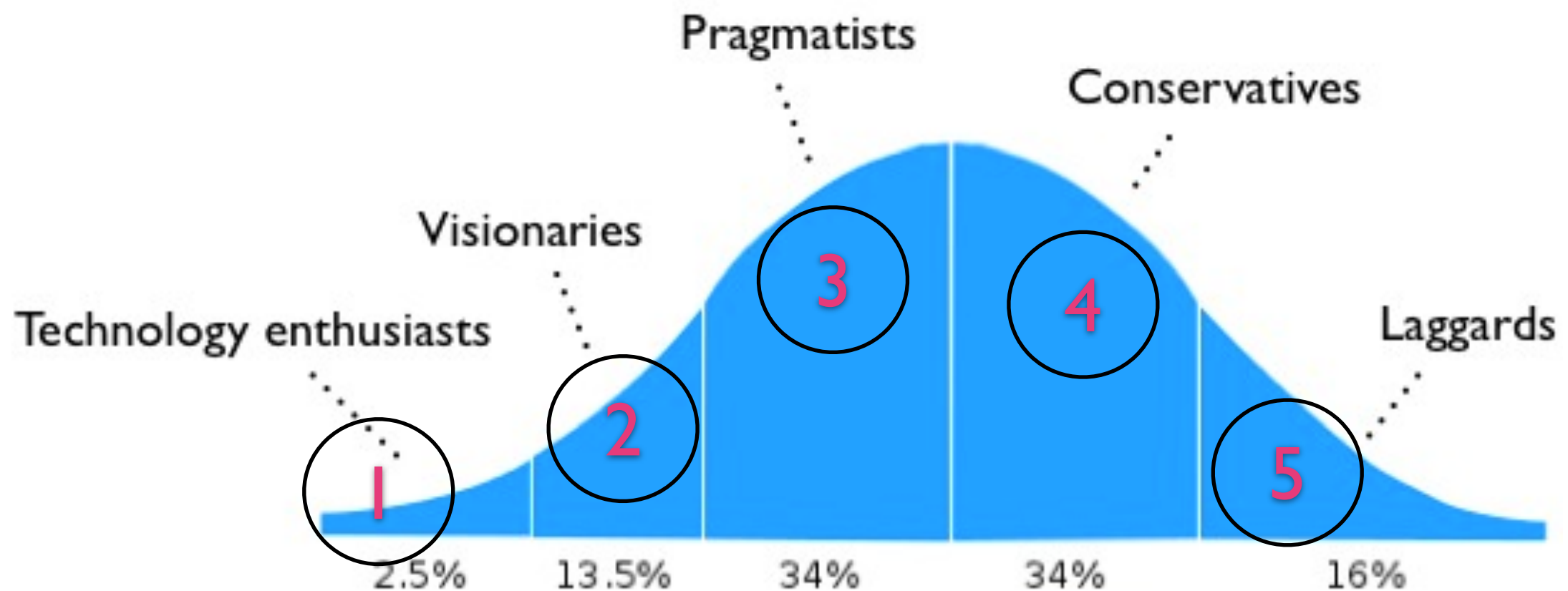
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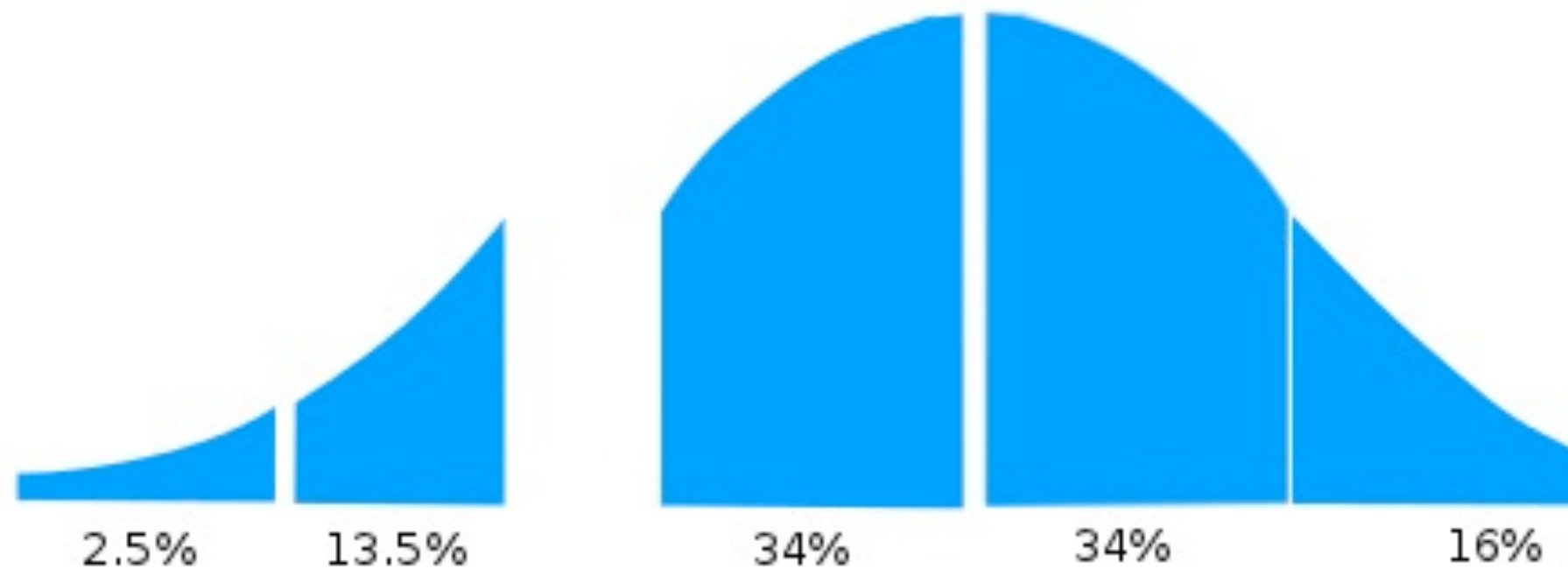
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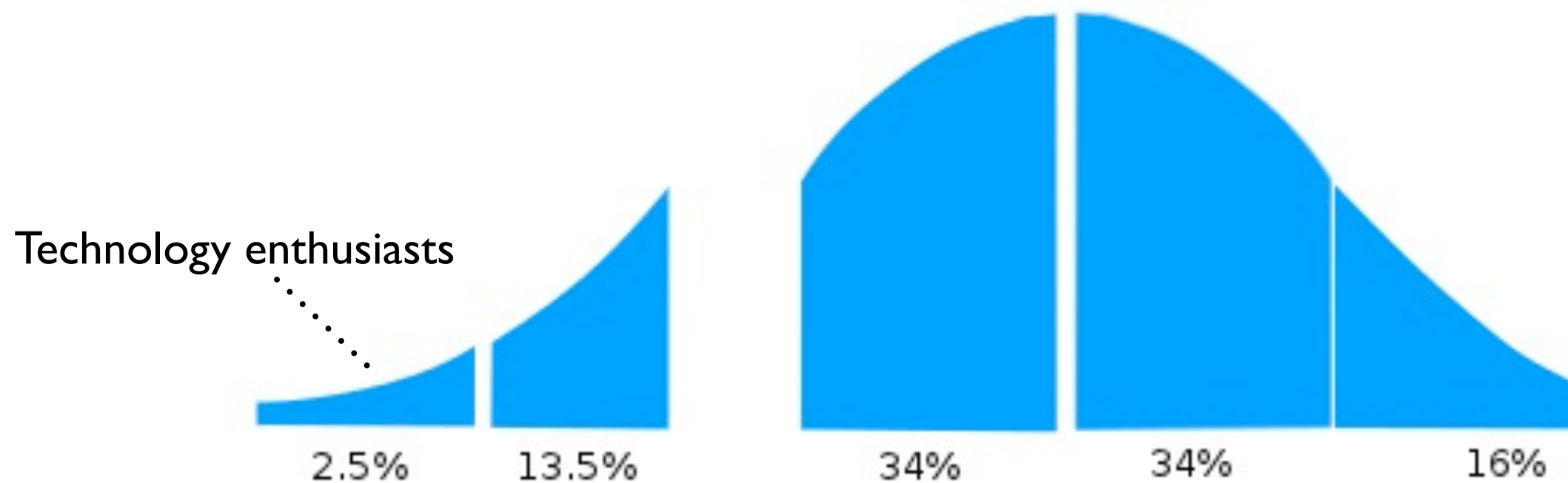


but it's just an illusion :-)

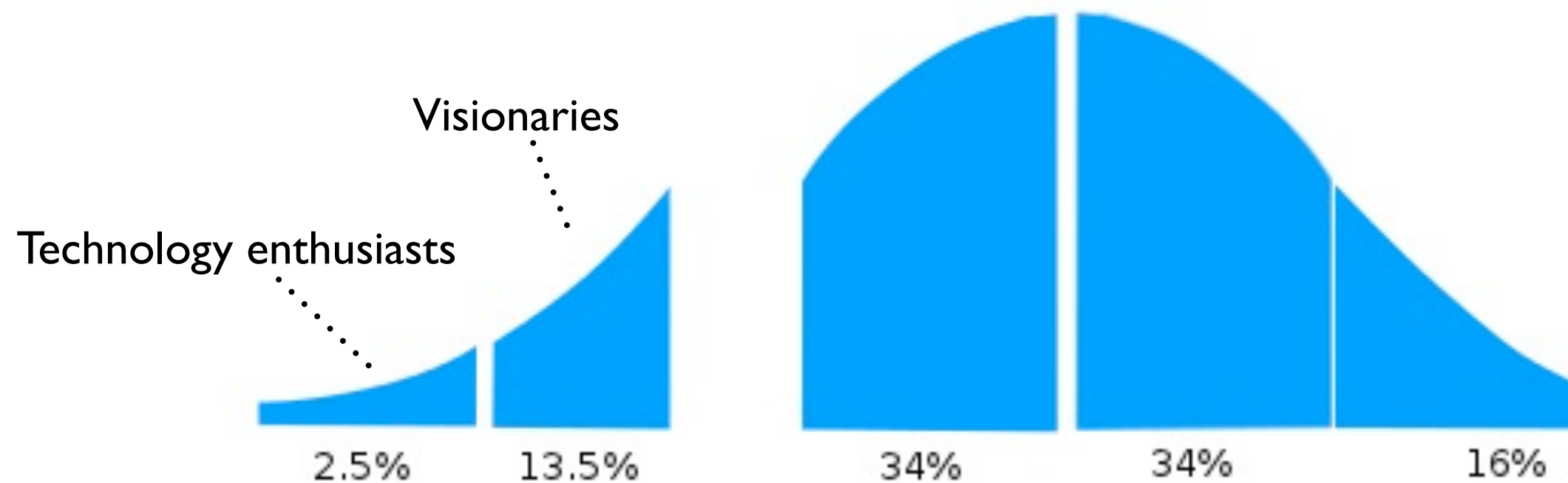
Cracks and a Chasm



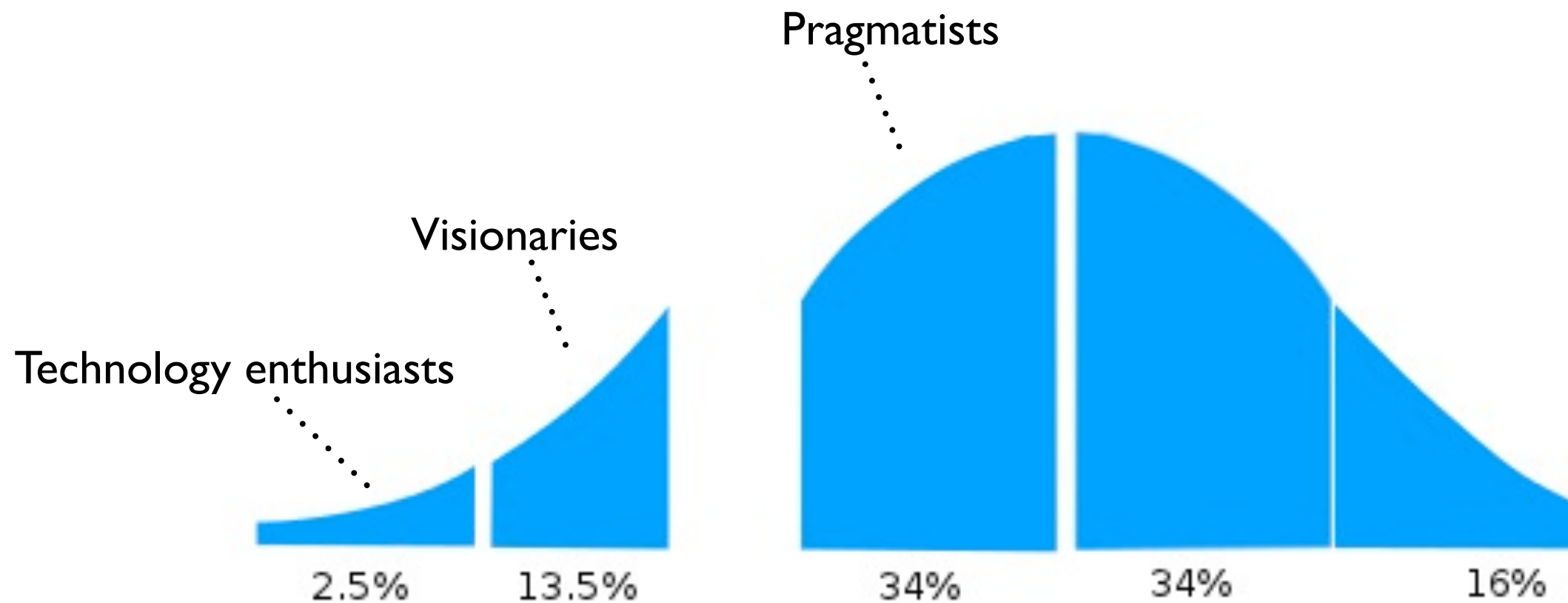
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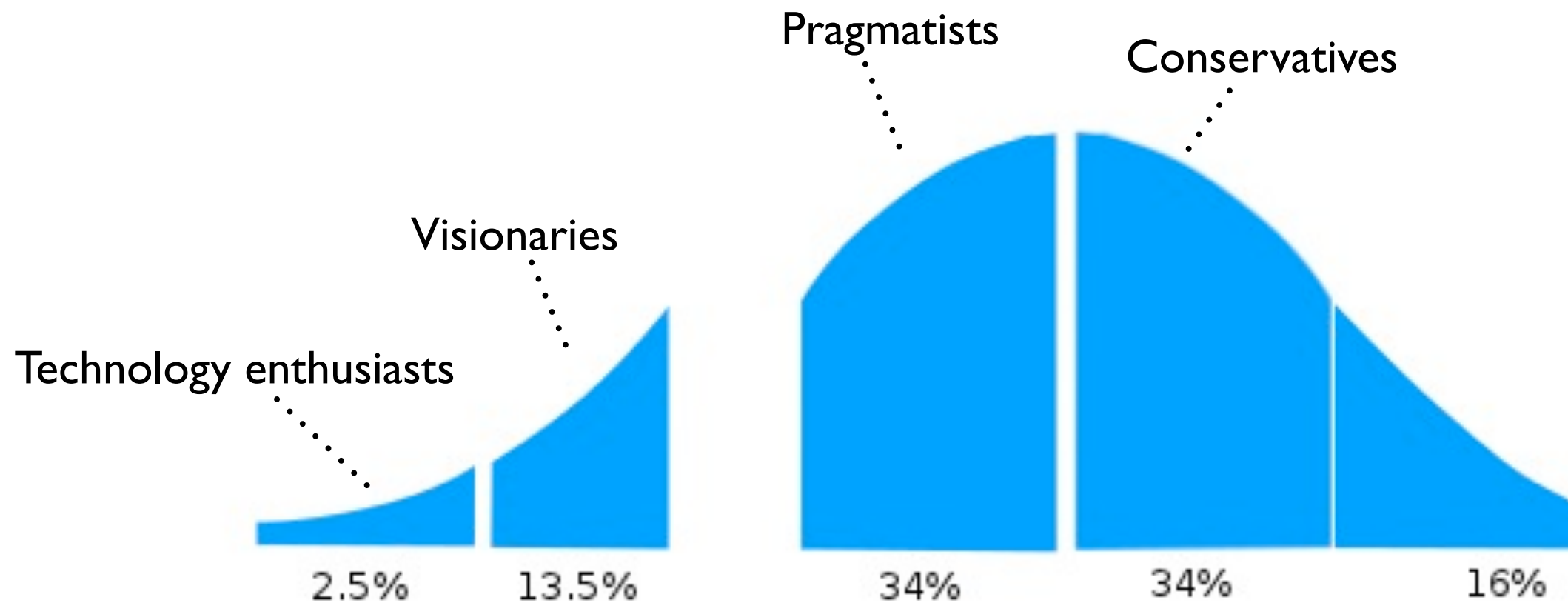
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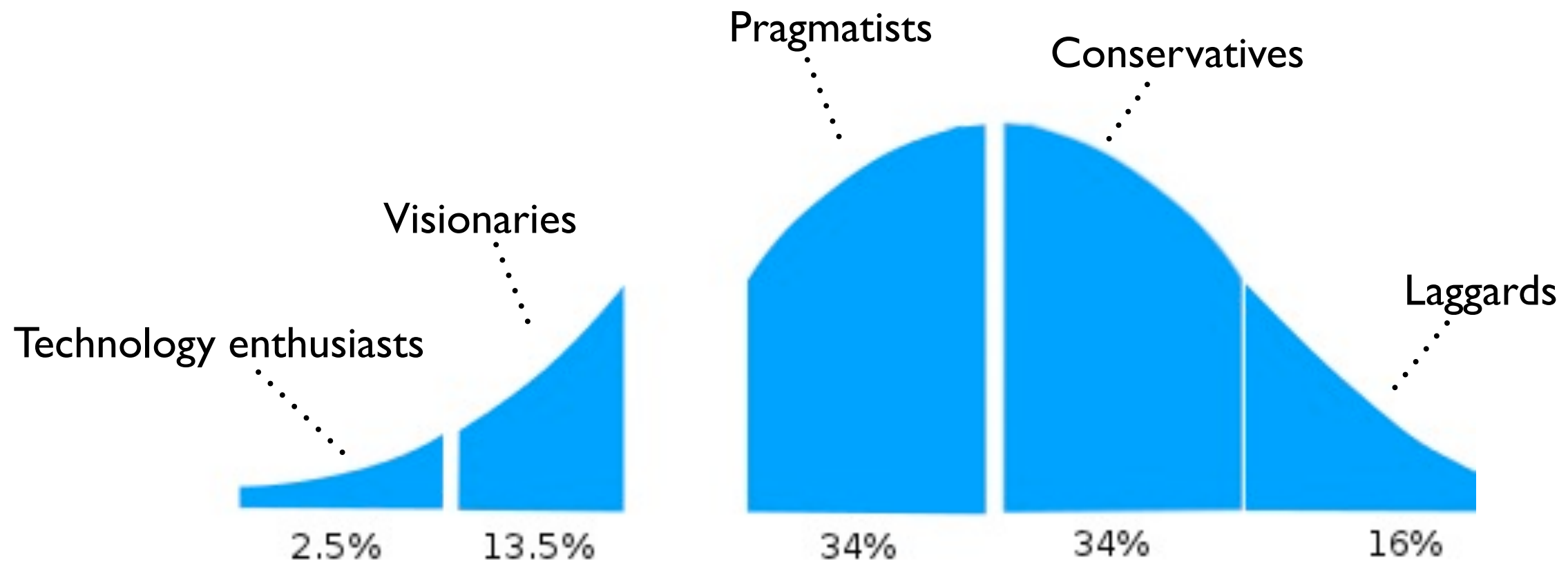
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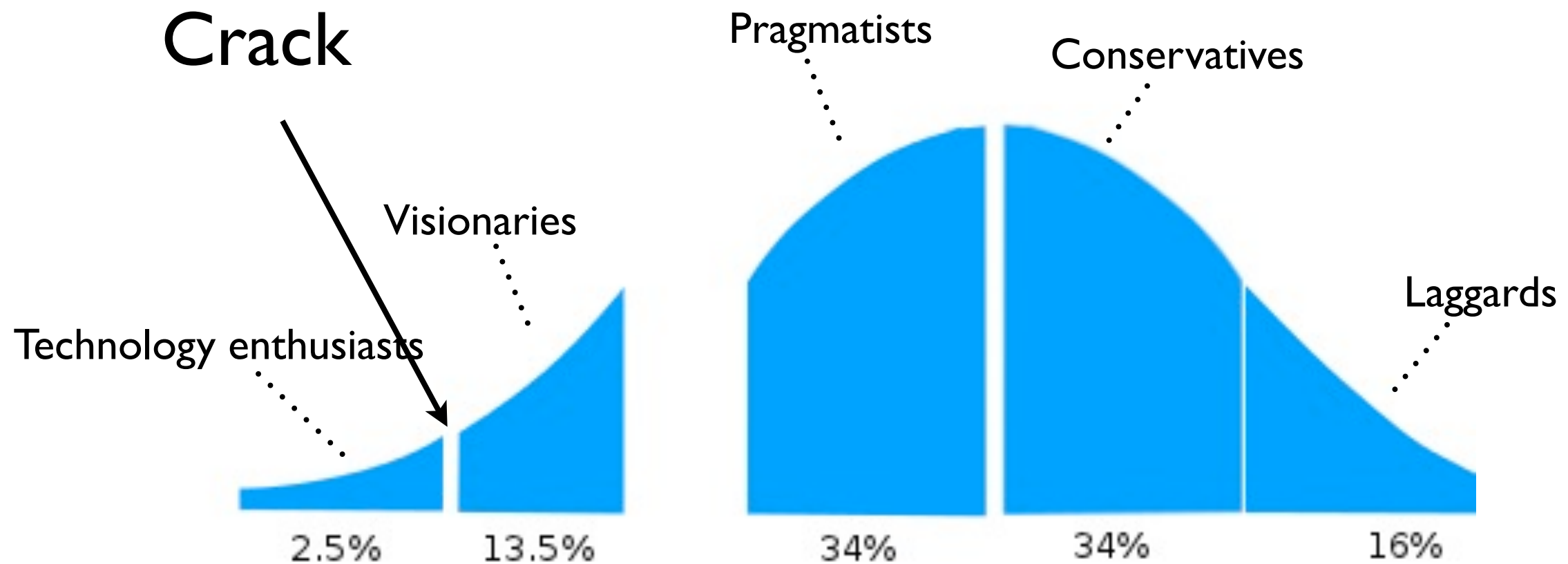
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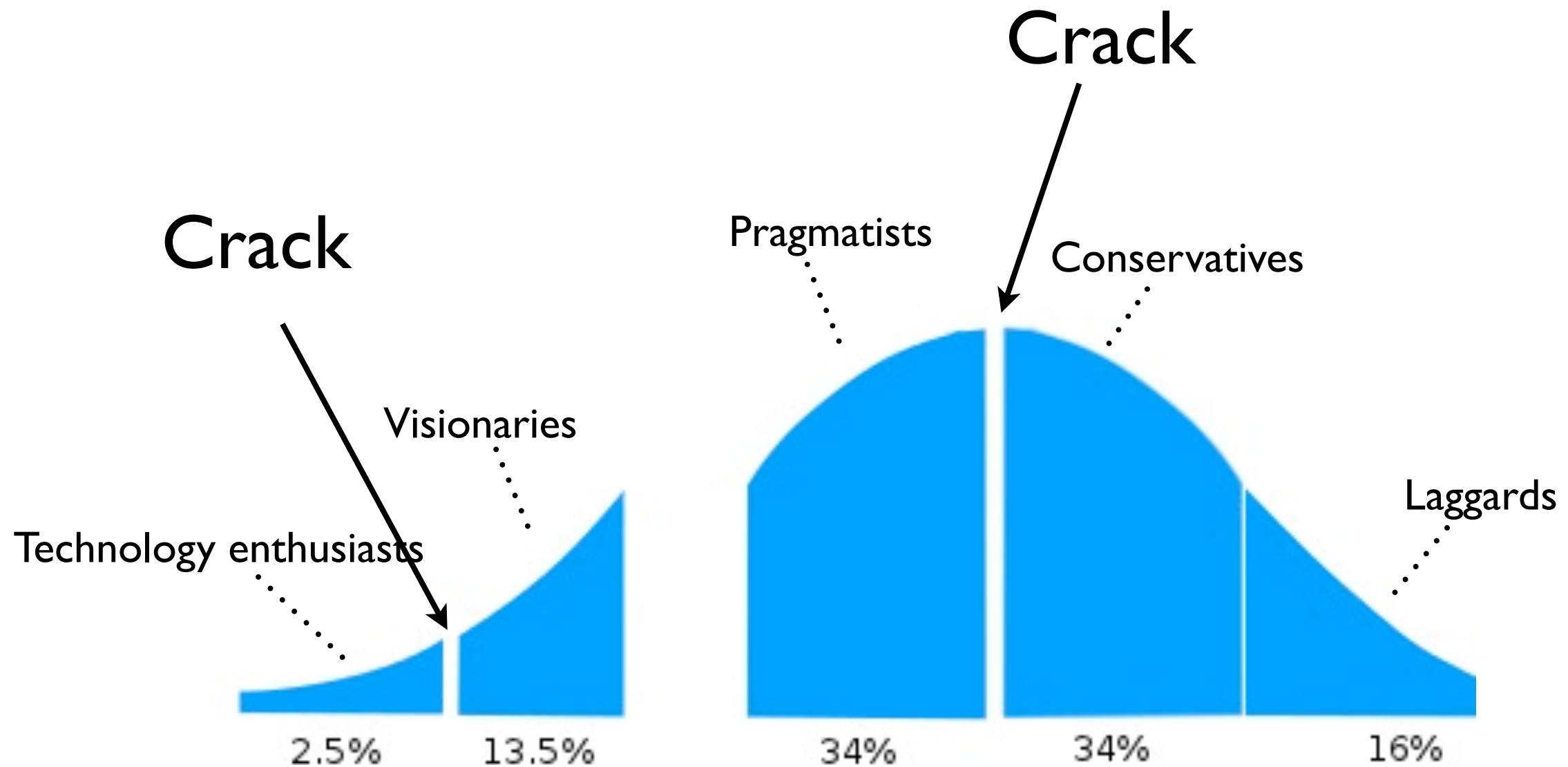
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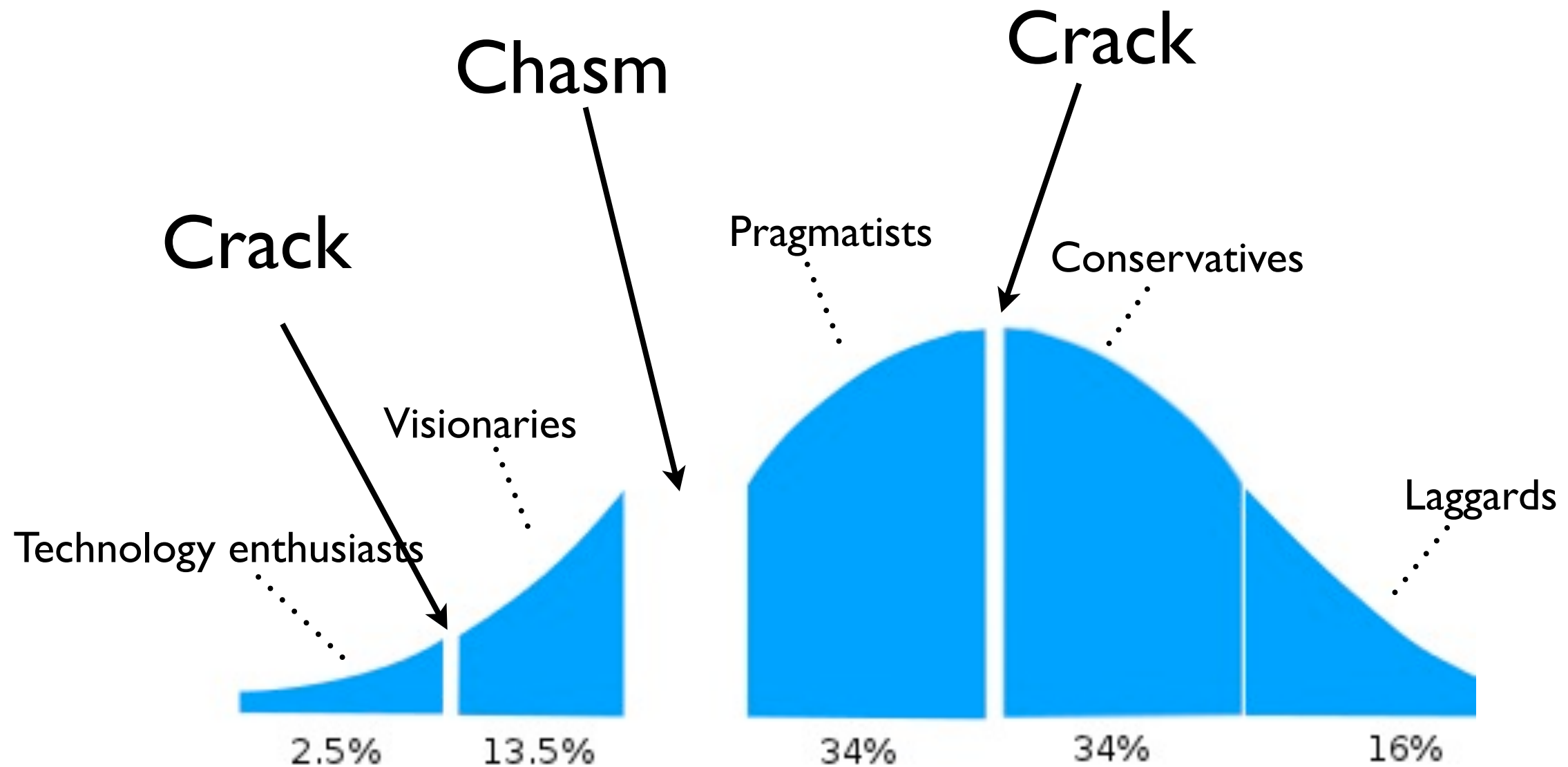
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- Typical issue: not able to show that the tech enables a leap forward
- Benefit typically shown as a single, compelling application

2nd Crack

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- Conservatives are not willing to become technologically competent
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2nd Crack

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- Conservatives are not willing to become technologically competent
 - Product must be easier to adopt than before
- User interface and user experience has to be redesigned
 - Don't spend R&D on adding more features

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- Pragmatists wants references

Visionaries vs Pragmatists

Visionaries have four characteristics that alienate Pragmatists:

Visionaries vs Pragmatists

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- Lack of respect for their colleagues' experiences
- Takes greater interest in technology than in their industry
- Fail to recognise the importance of existing product infrastructure
- Overall disruptiveness

Meanwhile in galaxy
far, far away from here...

Introducing Erlang

- Erlang is a programming language originally invented by Ericsson
 - create telephone switches faster and with higher quality
- Open source since 1998
- Main development still supported by Ericsson

Erlang's Original Requirements

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- Continuous operation for many years
- Software maintenance on-the-fly
- High quality and reliability
- Fault tolerance

Erlang's Sweet Spot

GUI

Erlang

Middleware
Coordination
Control

Drivers

Erlang Success Stories

- Riak (NoSQL DB)
 - used in Denmark's Shared Medicine Record
- CouchBase (NoSQL DB)
 - used in Draw Something
- XMPP (ejabberd and MongoooseIM)
- Messaging Gateways
 - both text and voice



- So if Erlang is the best thing since sliced bread, how successful is it?

Erlang Vital Statistics

TIOBE Index Feb-2013

| Position Feb 2013 | Position Feb 2012 | Delta in Position | Programming Language | Ratings Feb 2013 | Delta Feb 2012 | Status |
|----------------------|----------------------|-------------------|----------------------|---------------------|-------------------|--------|
| 1 | 1 | = | Java | 18.387% | +1.34% | A |
| 2 | 2 | = | C | 17.080% | +0.56% | A |
| 3 | 5 | ↑↑ | Objective-C | 9.803% | +2.74% | A |
| 4 | 4 | = | C++ | 8.758% | +0.91% | A |
| 5 | 3 | ↓↓ | C# | 6.680% | -1.97% | A |

Source: <http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html>

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In a league far, far away...

| | | |
|----|--------|--------|
| 34 | Erlang | 0.329% |
|----|--------|--------|

Source: <http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html>

Erlang Vital Statistics

Language Popularity Index tool Feb-2013

| Rank | Name | Share |
|------|-------------|---------|
| 1 | Java | 17.717% |
| 2 | C | 17.391% |
| 3 | Objective-C | 10.426% |
| 4 | Basic | 6.605% |
| 5 | C++ | 5.885% |
| 6 | C# | 4.708% |

Source: <http://lang-index.sourceforge.net/>

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| | | |
|----|--------|--------|
| 40 | Erlang | 0.295% |
|----|--------|--------|

Source: <http://lang-index.sourceforge.net/>

Is Erlang in the Chasm?

Is Erlang in the Chasm?

- Some, but not many, are enthusiastic about Erlang
- Some, but not many, success stories
- No major upward trend to be found
- Erlang might very well be stuck in the Chasm

Market Definition

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 - who reference each other when making buying decisions
- The referencing aspect is key!

Crossing the Chasm

D-day Analogy



D-day Analogy



D-day Analogy

Early Market base



D-day Analogy

Strategic target
market segment



D-day Analogy



D-day Analogy



Additional
market segments

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without taking a
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If this is all you remember from this talk
you are not too bad off!

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Most companies do not have the discipline to stop pursuing any sale at any time for any reason

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 - not always
- We will discover our market, led to it by our customers?
 - not in a million years!

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- Anything missing = incomplete solution
- Incomplete solution = cannot be referenced

The Lure of Selling to Everyone



Source: <http://sustainablethoughts.org/2010/12/02/the-siren-call/50/>

Market Leadership

- Pragmatists wants to buy from market leaders
- Owning a market provides a solid base



Source: <http://www.stay-a-stay-at-home-mom.com/stay-at-home-mom-income.html>

Applications vs Platforms

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 - if one fixes a broken, mission-critical business process end users will force IT departments to install

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 - better when markets go mass

Riak vs Erlang



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 - written in Erlang
 - thriving company behind it with a number of million \$ fundings
- Erlang is a platform
 - supported by Ericsson and open source community
 - no mainstream penetration

Crossing the Chasm Phases

- Target the Point of Attack
- Assemble the Invasion Force
- Define the Battle
- Launch the Invasion

Target the Point of Attack

High-Risk, Low-Data Decision

- You have to pick a beachhead without having any hard market data
- Cannot use the data from the Visionaries
- You are on your own!
- Use informed intuition instead of analytical reason

Target Customer Characterisation

- Must get personal
 - markets are impersonal and abstract
- Create a number of them until you start repeating yourself
- For each customer profile you create a scenario
- With a number of scenarios in hand you rate them against the Market Development Strategy Checklist

Scenarios

- Who is who?
 - End User, Technical Buyer, Economic Buyer
- A day in the life (before)
 - What is the problem with the existing approach?
 - What are the economic consequences?
- A day in the life (after)
 - What does the new approach enable?
 - Show me the money!

Market Development Strategy Checklist

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 - Target customer
 - Compelling reason to buy
 - Whole product
 - Competition

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Rate them 1-5
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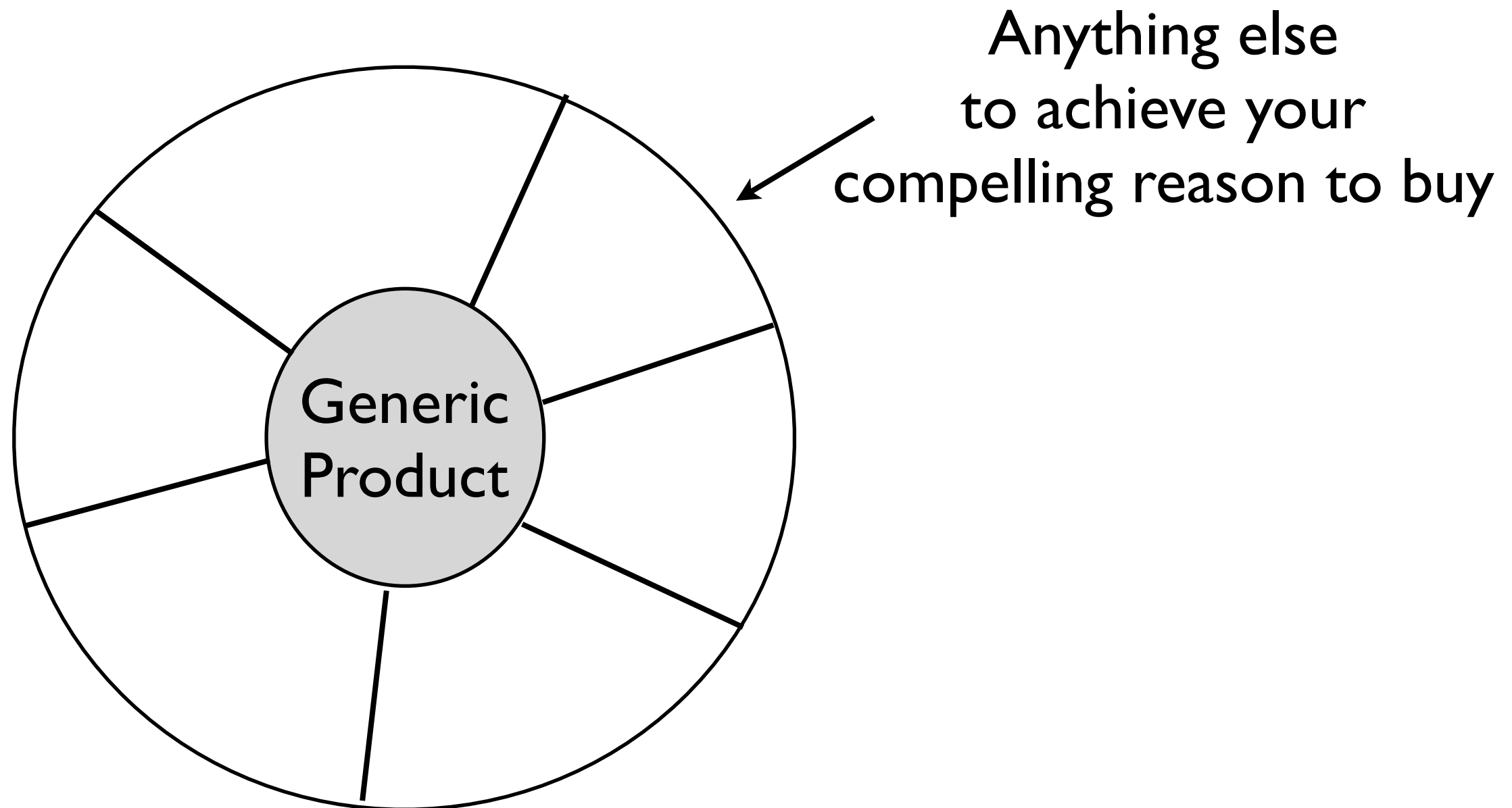
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 - pick on somebody of your own size
 - you have to become market leader

Assemble the Invasion Force

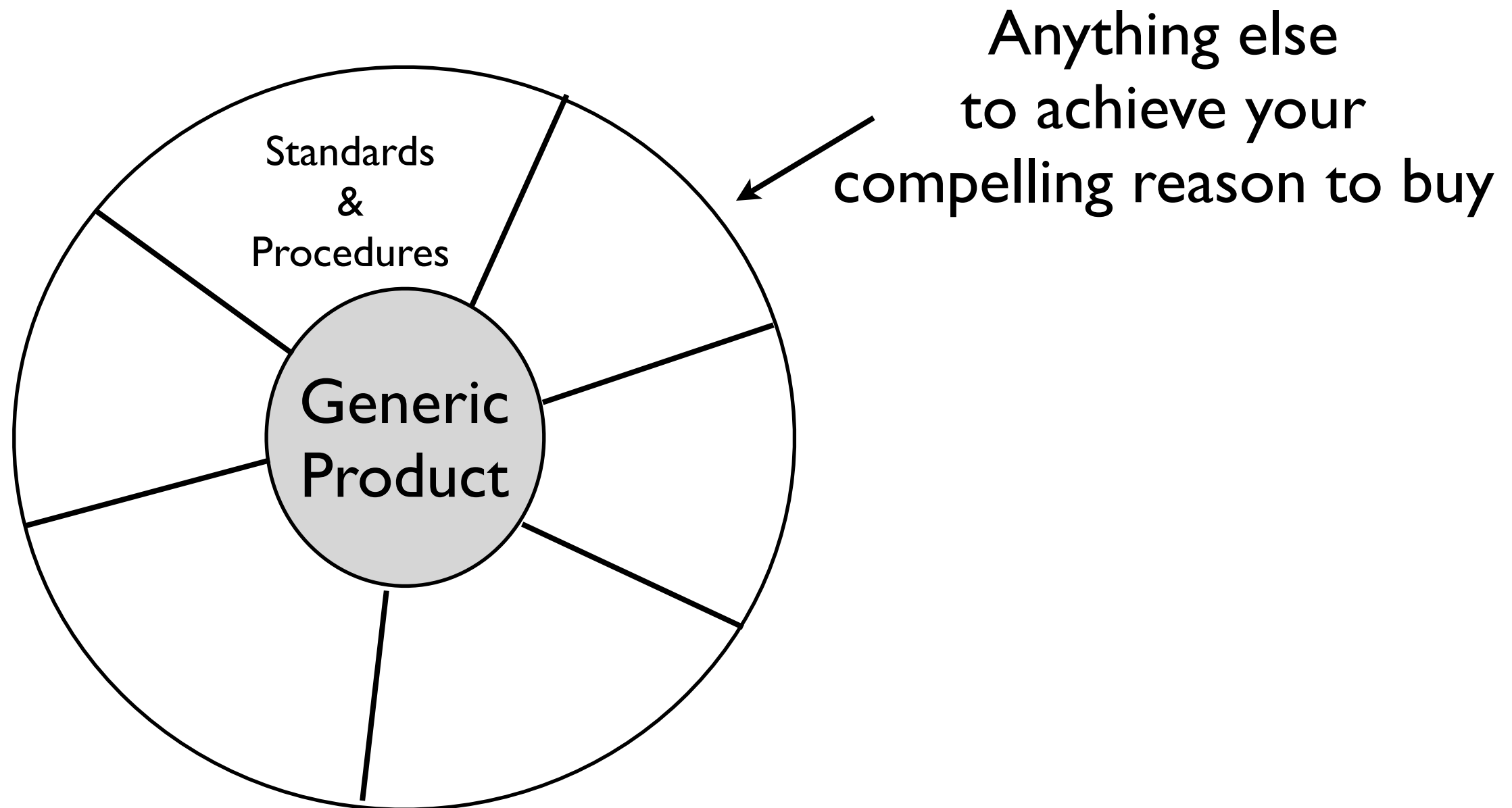
Whole Product Planning

Simplified for chasm crossing



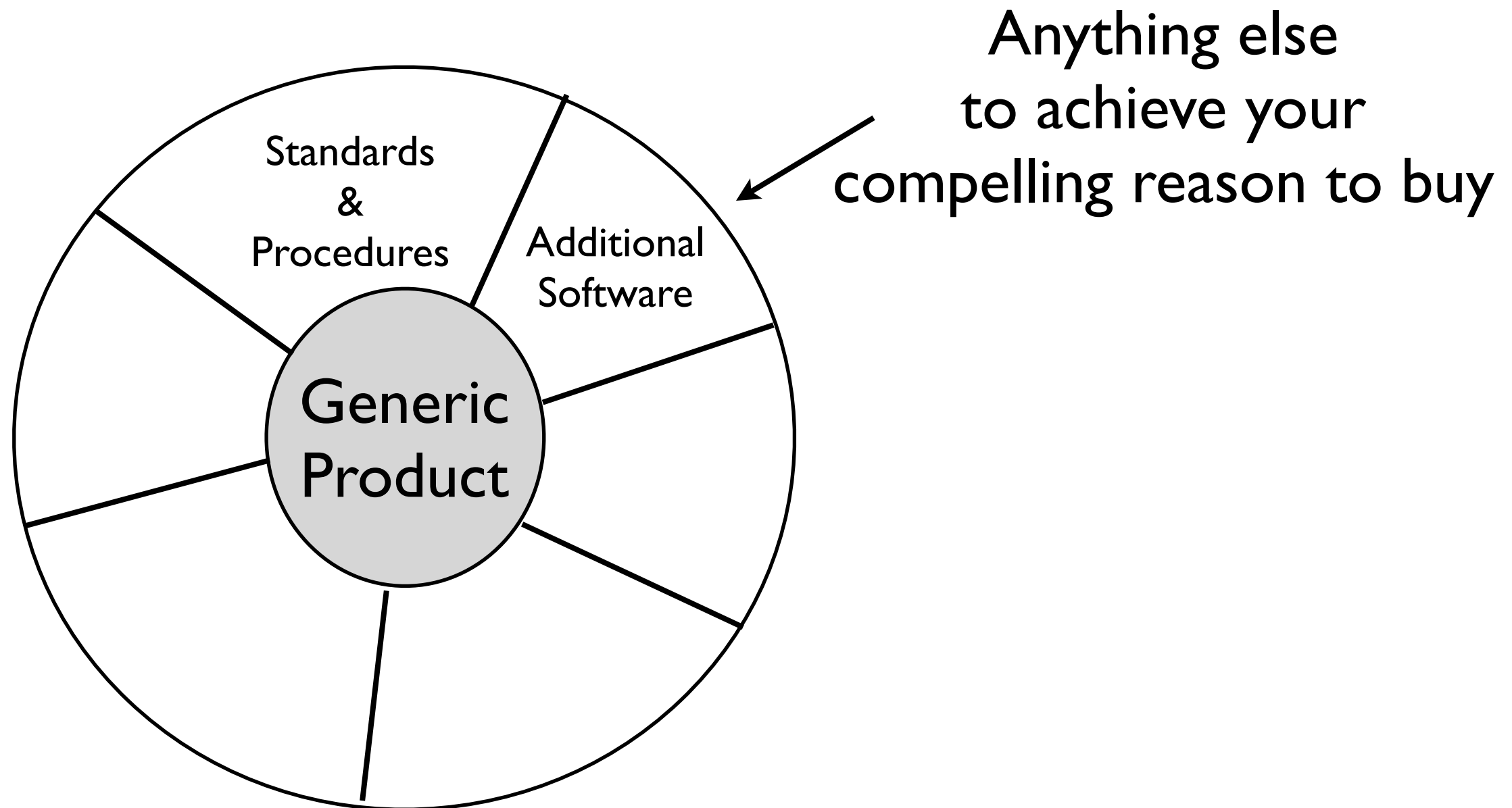
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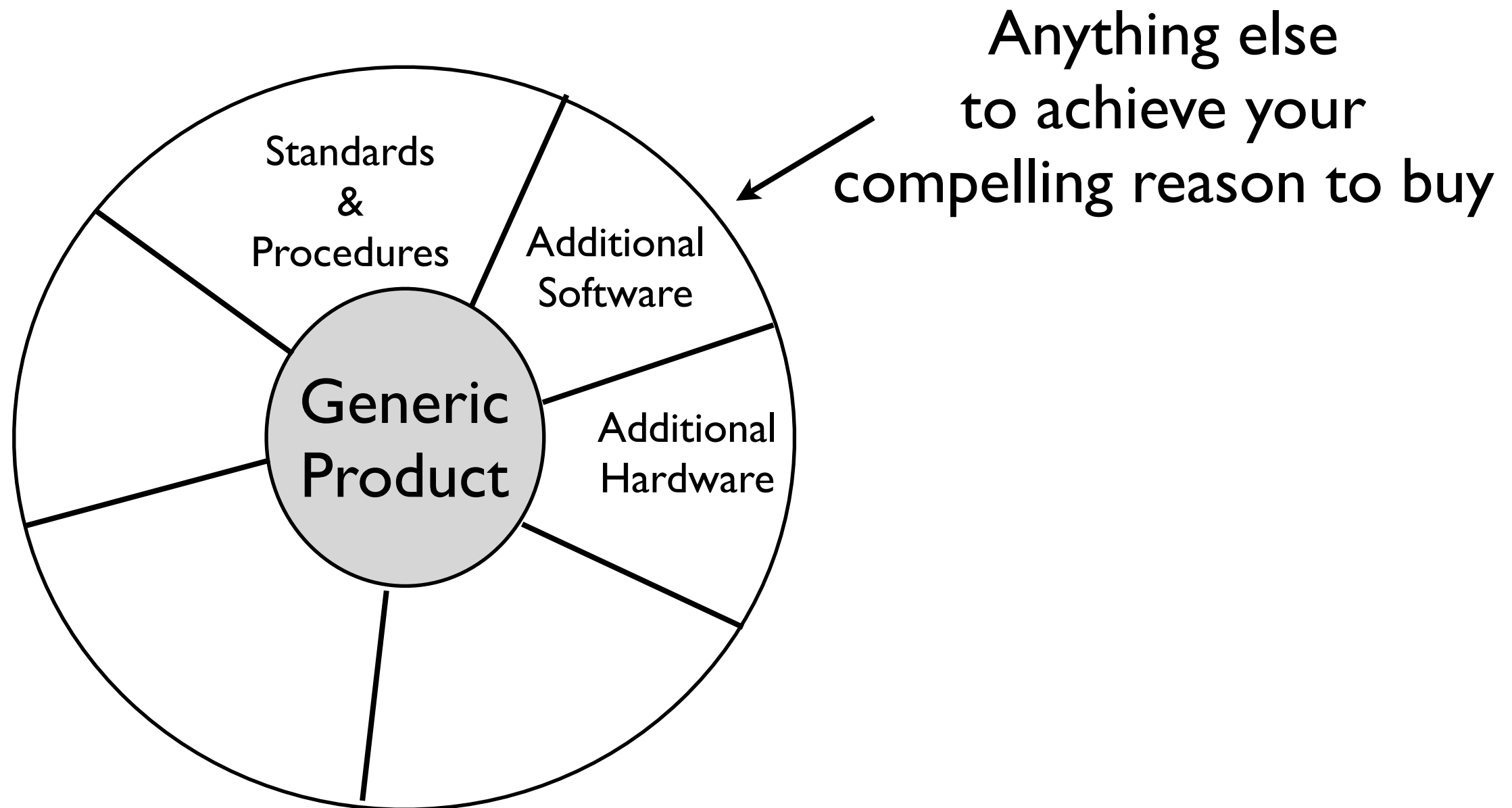
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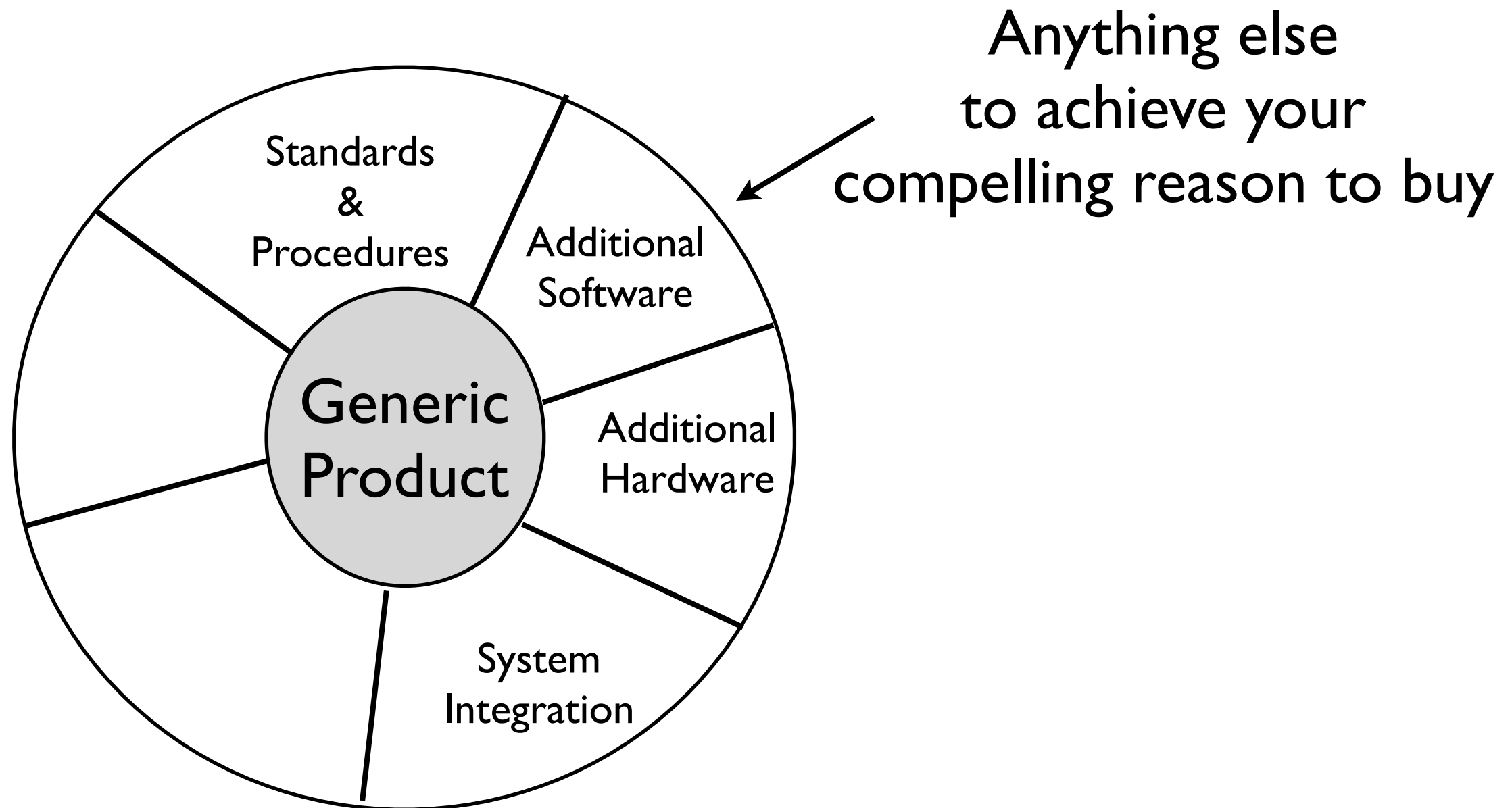
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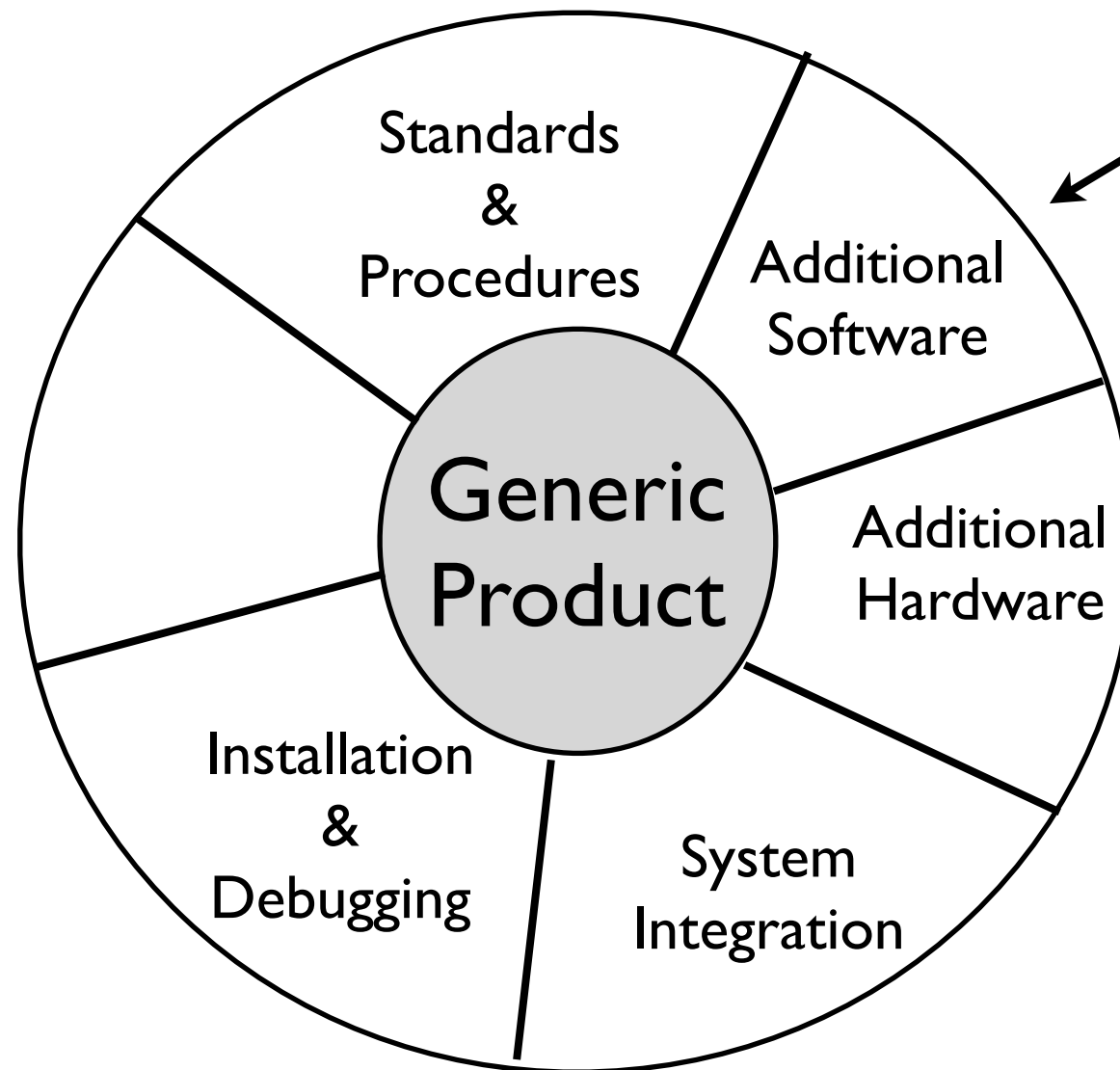
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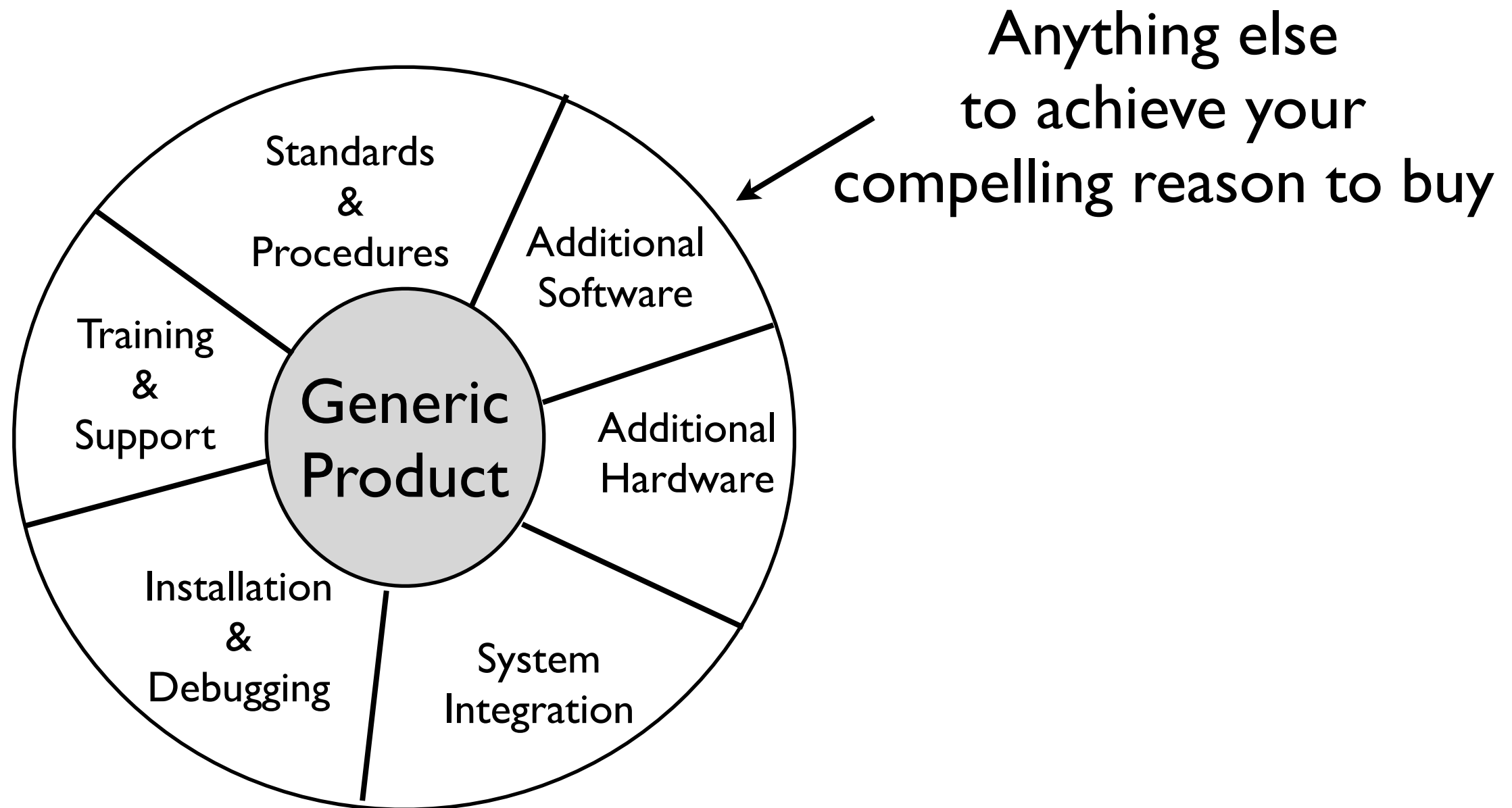
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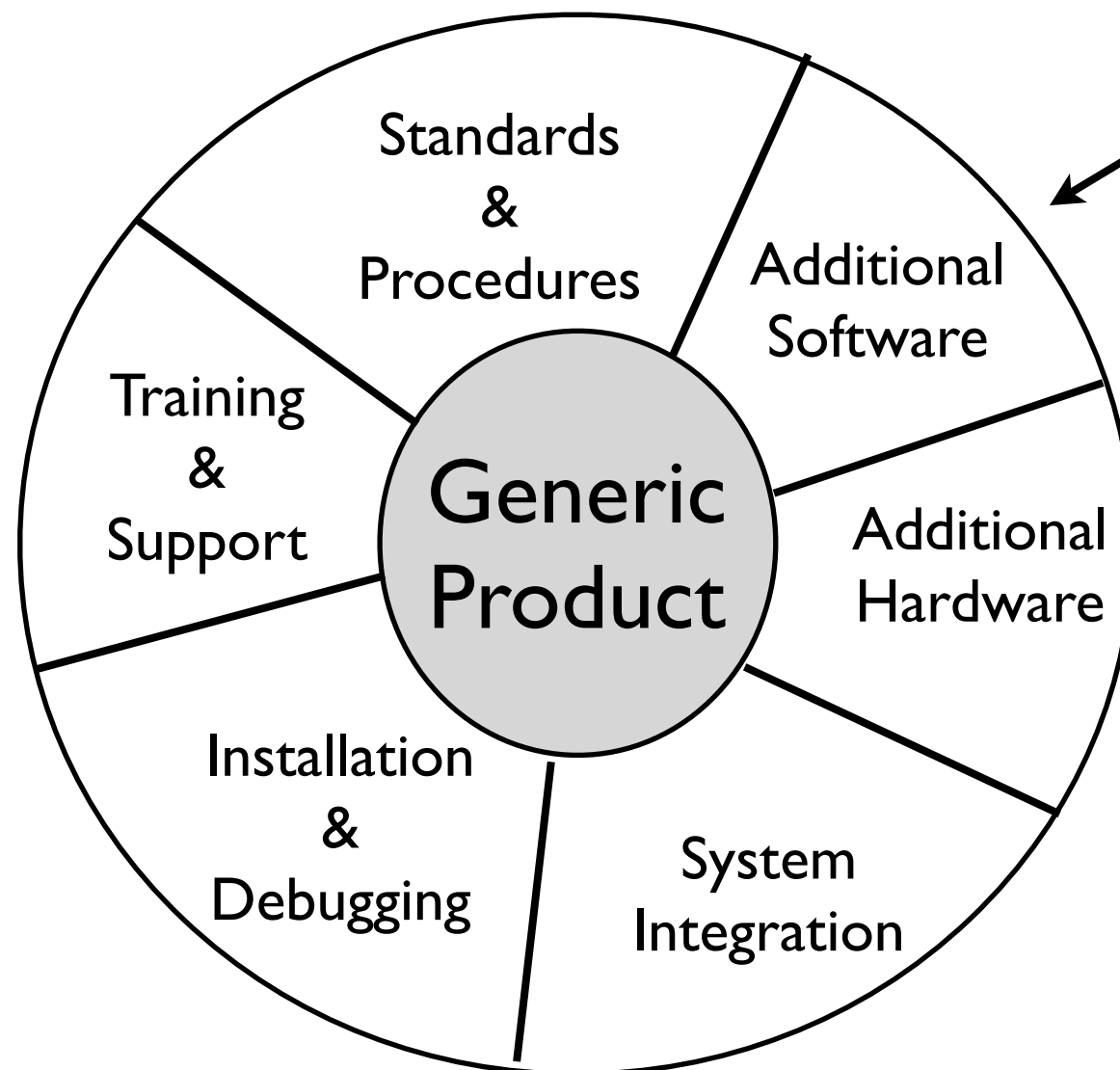
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Anything else
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= *marketing promise*
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- Installation & Debugging:
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- Erlang is in the chasm
 - a number of Visionaries has picked up the tool
 - not clear market leader in any segment
 - short-comings on the whole product

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