

YOUR LEADER
IN RELIABILITY SOLUTIONS



Reliability in the Product Development Process



Collaboration

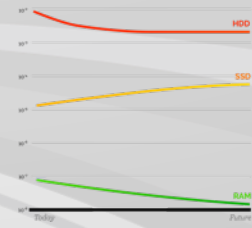
Adam Bahret



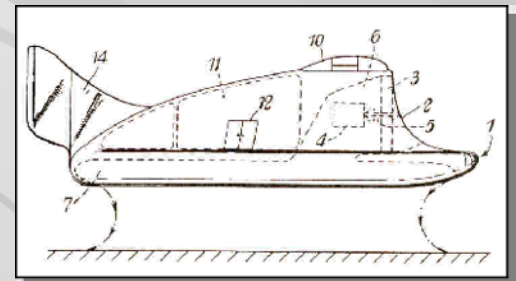
Our Challenge



Latency Trends

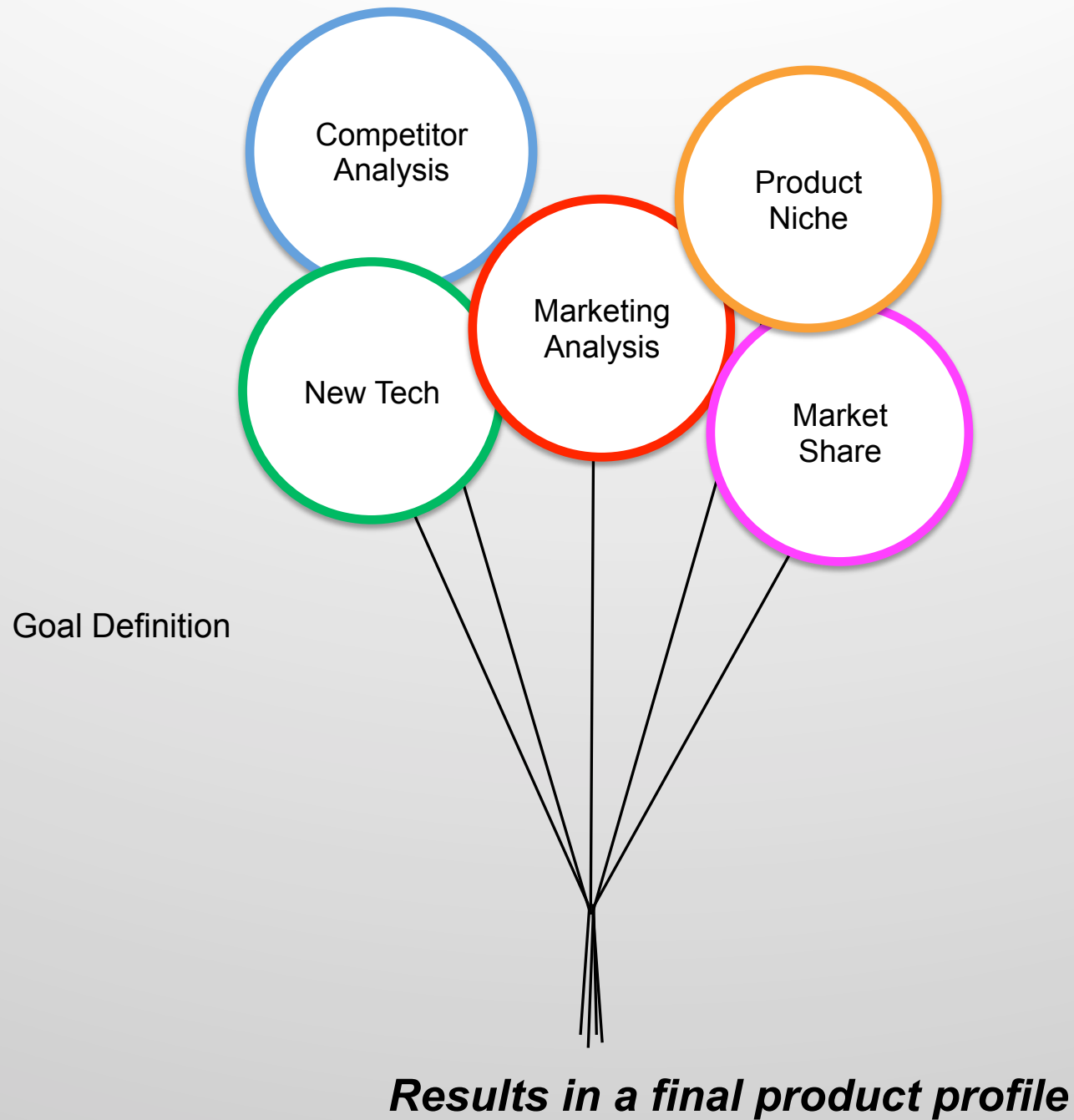


Bandwidth Trends



Create







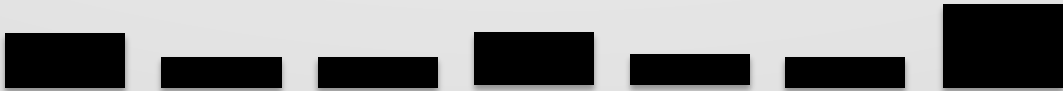
Missed Connection



Create



We can handle a few small issues.



We can handle a few small issues.





WE BULL WAS RIGHT

THE FAILURES MODES
WILL FIND YOU

THEY ALWAYS DO

MTBF
SUCKS

React



Popular Mechanics



Photo: Joe Pappalardo







“Should we stop production?”

“Can we offer the customers the predecessor product?”





“Should we stop production?”

“Can we offer the customers the predecessor product?”

***“Let’s put a Tiger Team
together!”***



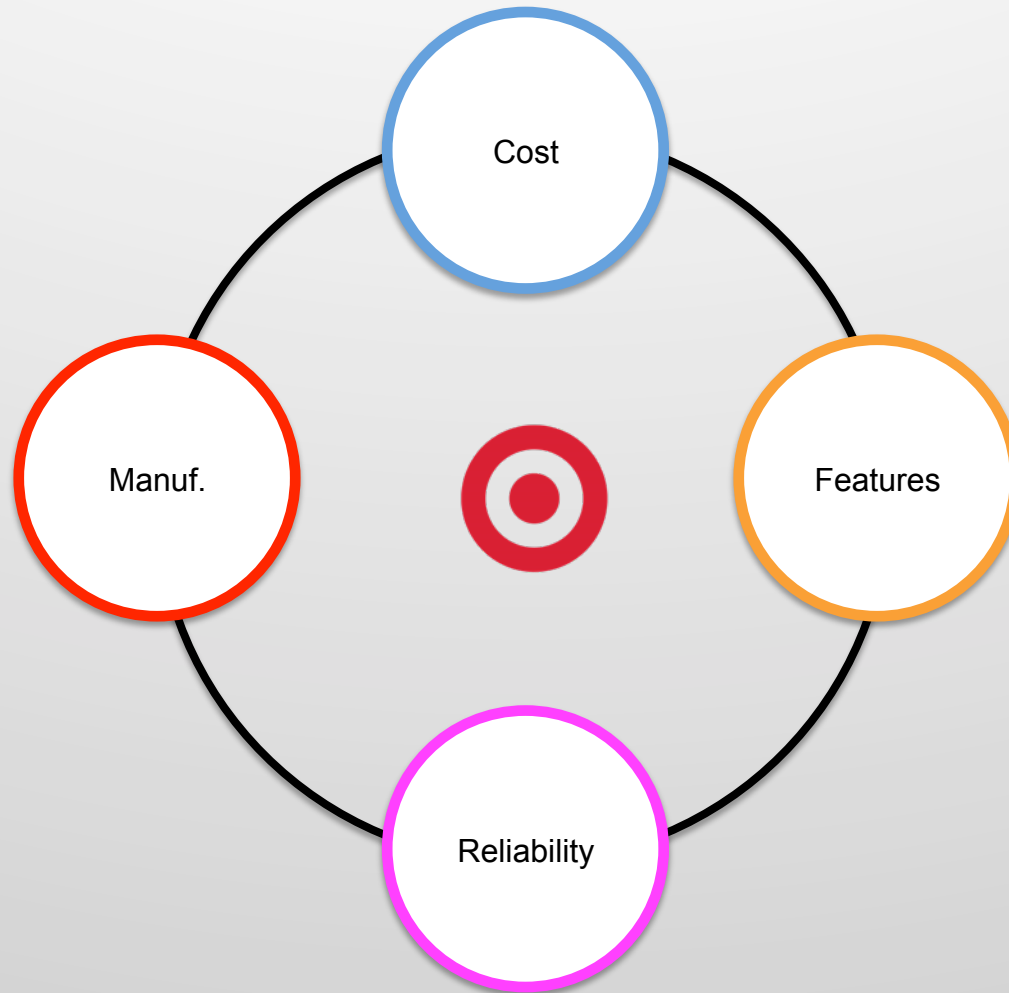


Recover

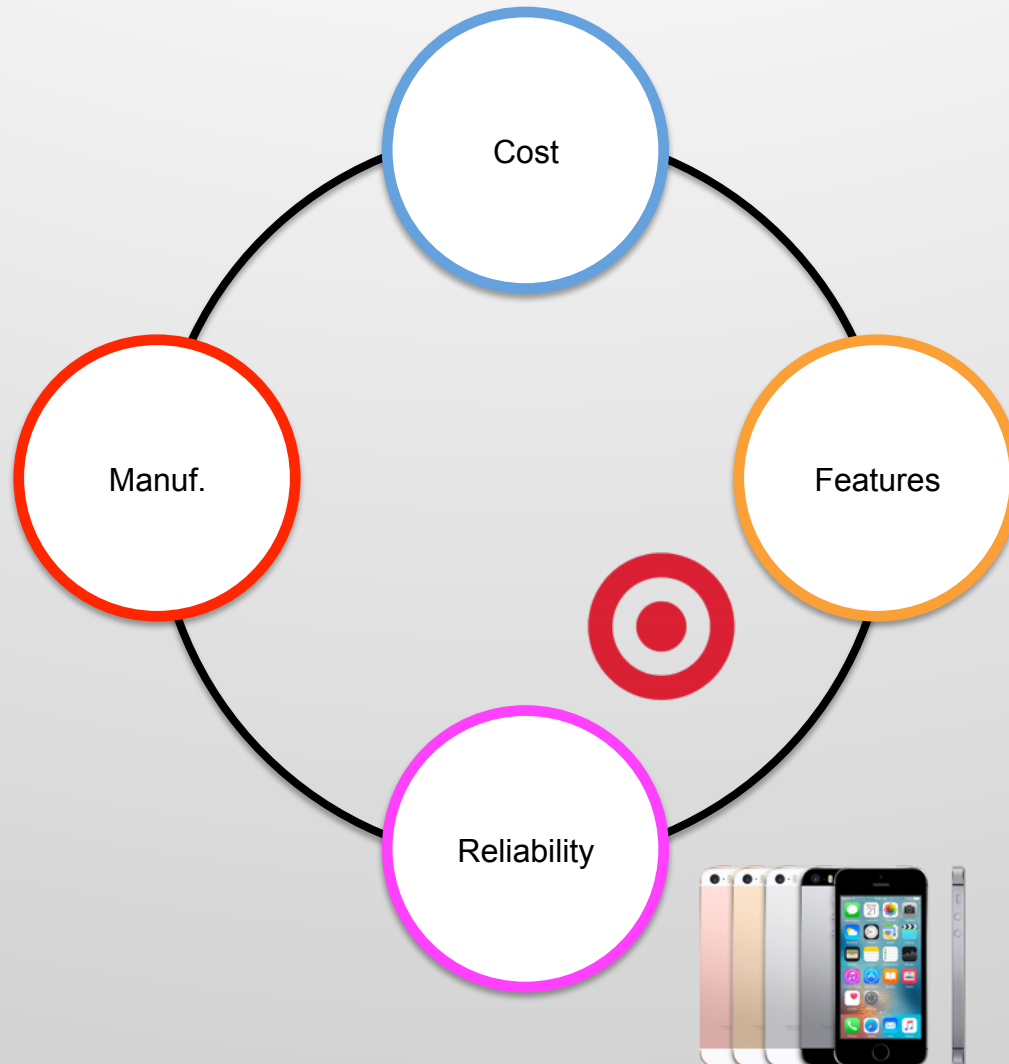


Plan





Setting The Goal



Setting The Goal

iPhone

Reliability over Manufacturability

- Screws instead of snap fit

Reliability over Cost

- Aluminum instead of plastic case

Features over Cost

- High end processor and hardware

Entry level Drill

Manufacturability over reliability

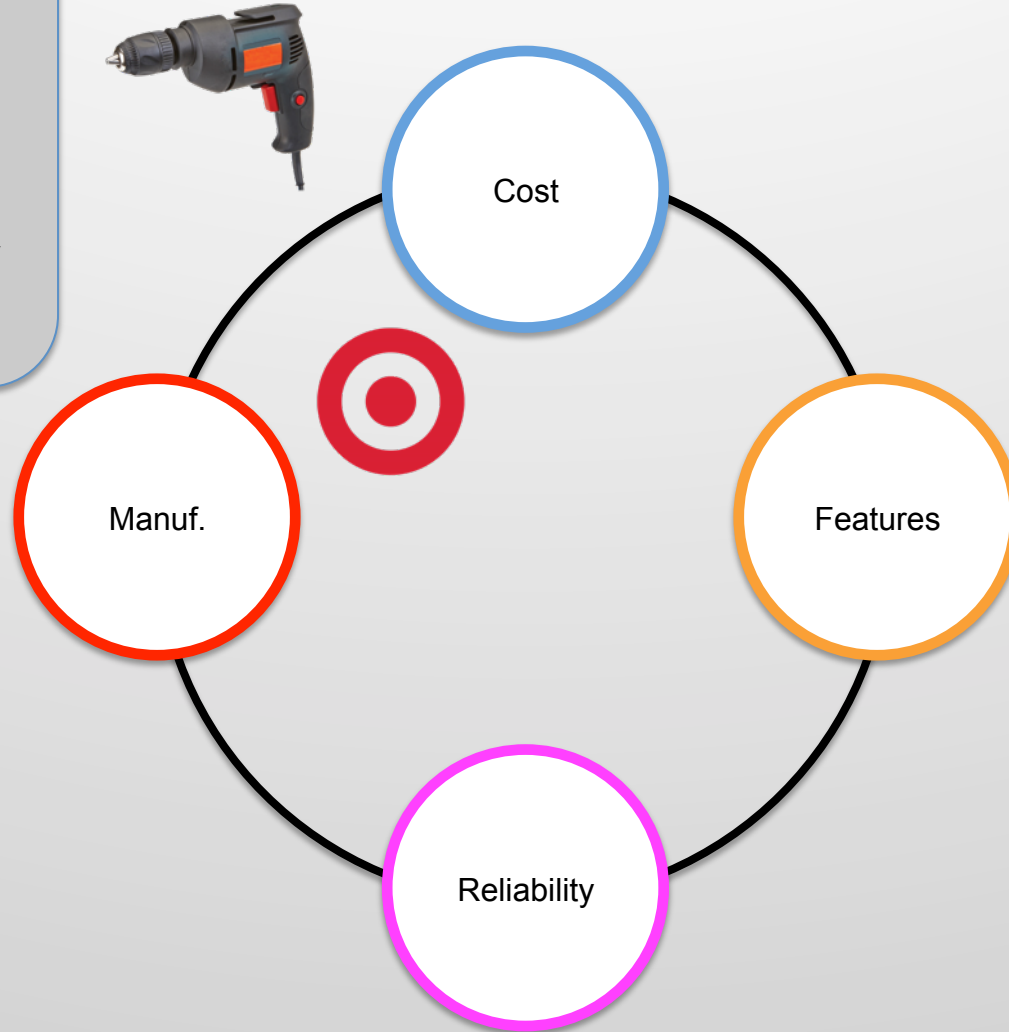
- Parts snap together
- Plastic instead of metal

Cost over features

- Two inputs; trigger and direction

Cost over Serviceability

- Snap fit with no access to internals

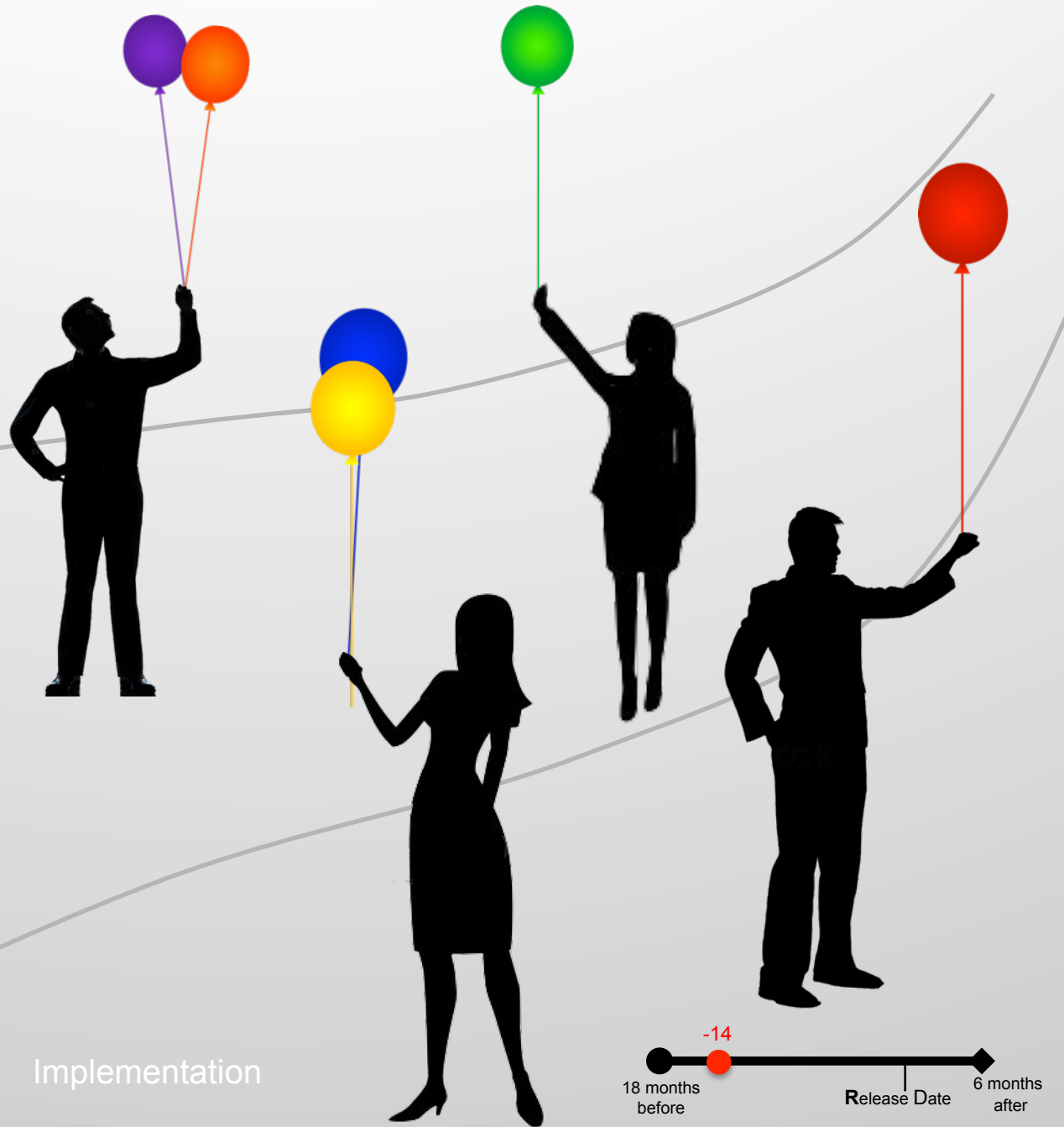


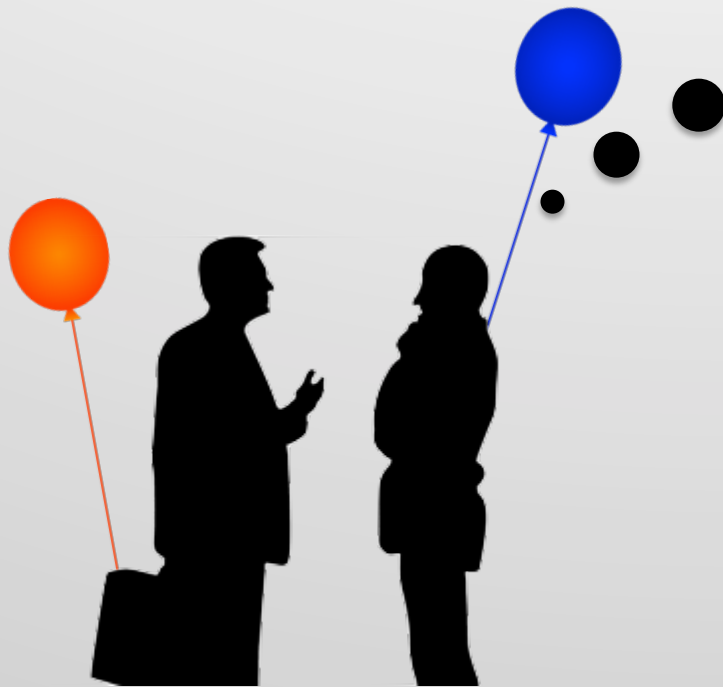
Setting The Goal



Implementation







The Dominant Priority Method

- A “Priority Goal” is the dominant driver at any given moment
- The others are considered *only* when an alarm goes off and a reorder is necessary
- *There is a lot of shuffling*



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Competition

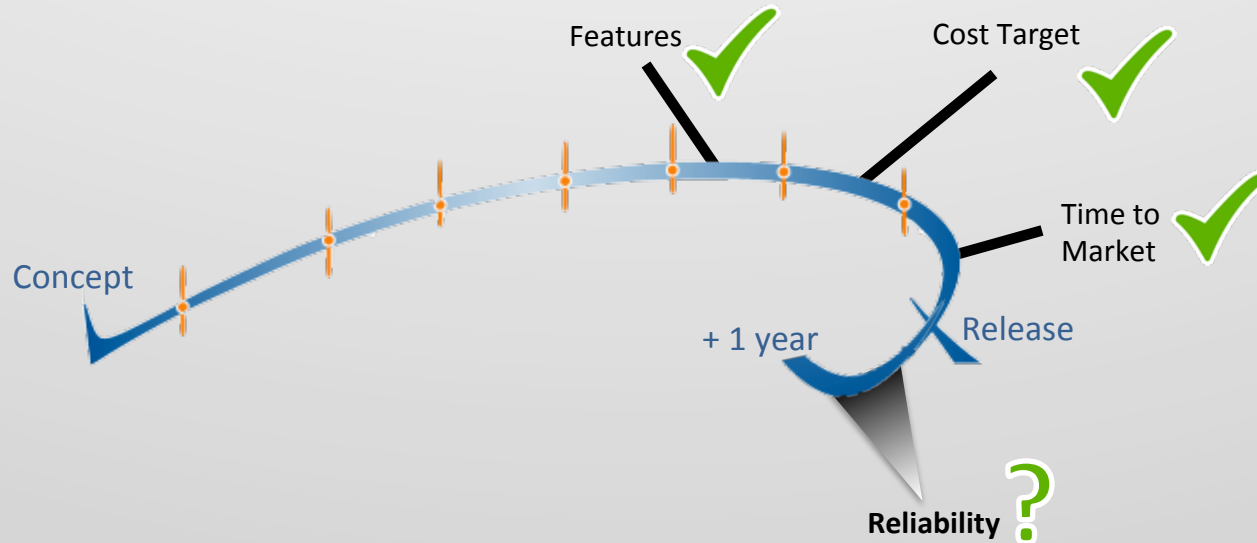


Competition

Distant ROI for Reliability

- ***Goal ROI***

- ***“Time to Market” – Known at release***
- ***“Product Cost” – Known pre-release***
- ***“Product Features” – Known pre-release***
- ***“Reliability” – Up to 1 year post release***



***There is a trap that is setup by well
intended program architects.***



Struggle

The Illusion





Team's Experience



Management's experience



**Company's
experience**



***Create a system where the team
shares the goals***



Work

***Similar to
the
business***

Bounding

A methodology that consistently directs program activities toward the balance of product objectives





Organizational Innovation

No organizational roles



Organizational Innovation

No organizational roles



Less than 150 members

Dunbar's Number



Organizational Innovation

A Complex Relationship

We need to acknowledge the goals have a complex relationship

It's not simply a weighted rank order... it's equation based relationships

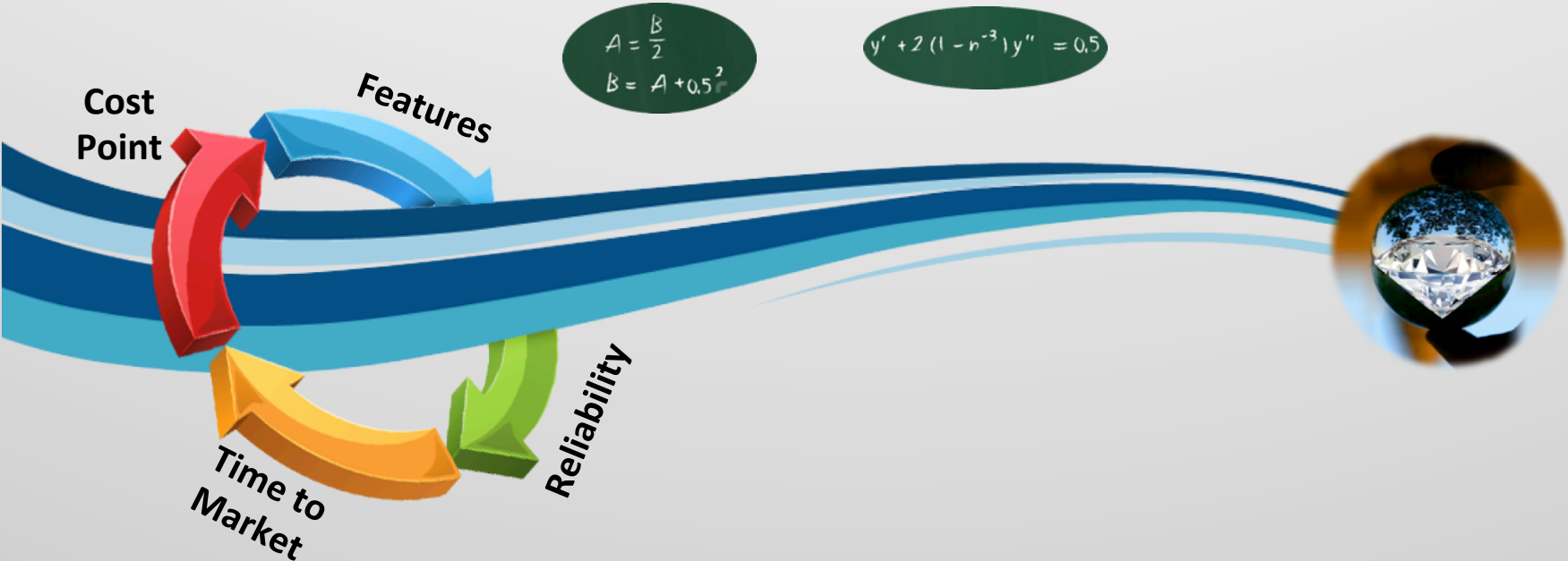


A Complex Relationship

We need to acknowledge the goals have a complex relationship

It's not simply a weighted rank order... it's equation

based relationships



Balancing the Household Budget





Hard
Limit



Cost Point

Linear



Reliability

Time to Market



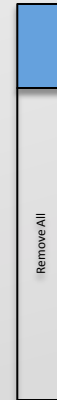
Linear to
on/off



Postpone
program



Features



Cancel
Threshold

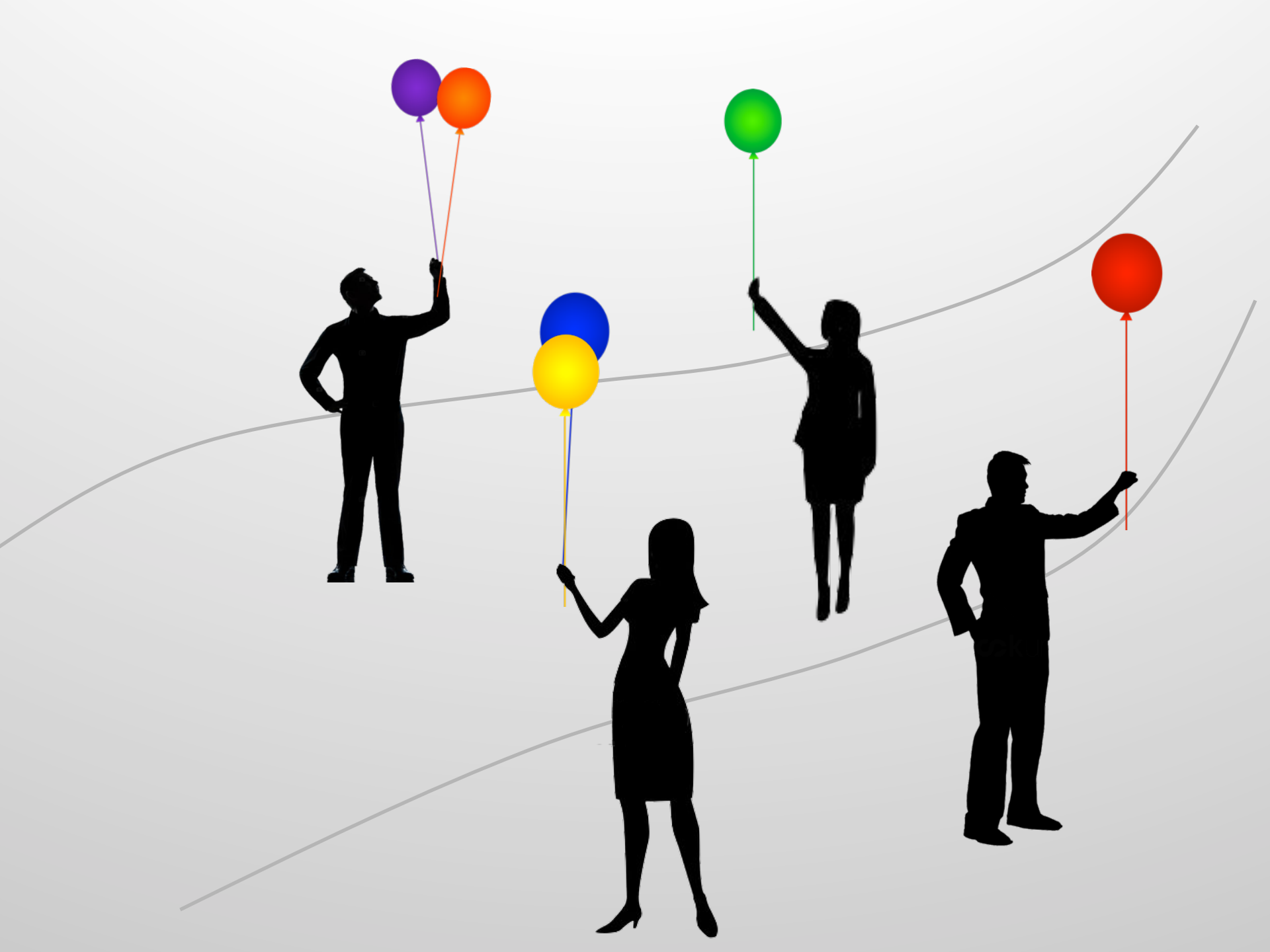


Our common objective is ROI

Relating the other product and program factors to ROI is how we make program decisions







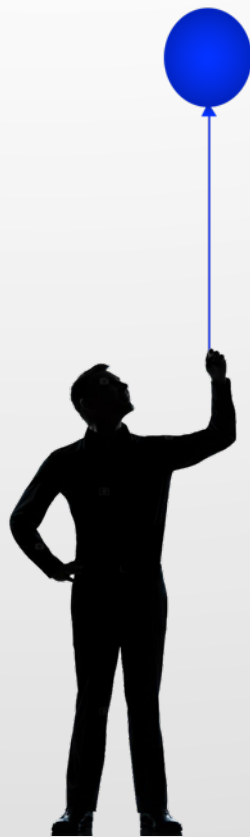


Focus Rotation Methodology



Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31					<div> <div>December 2015</div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> <div>17</div> <div>18</div> <div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div> <div>25</div> <div>26</div> <div>27</div> <div>28</div> <div>29</div> <div>30</div> <div>31</div> </div> </div>	<div> <div>February 2016</div> <div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> <div>17</div> <div>18</div> <div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div> <div>25</div> <div>26</div> <div>27</div> <div>28</div> <div>29</div> <div>30</div> <div>31</div> </div> </div>

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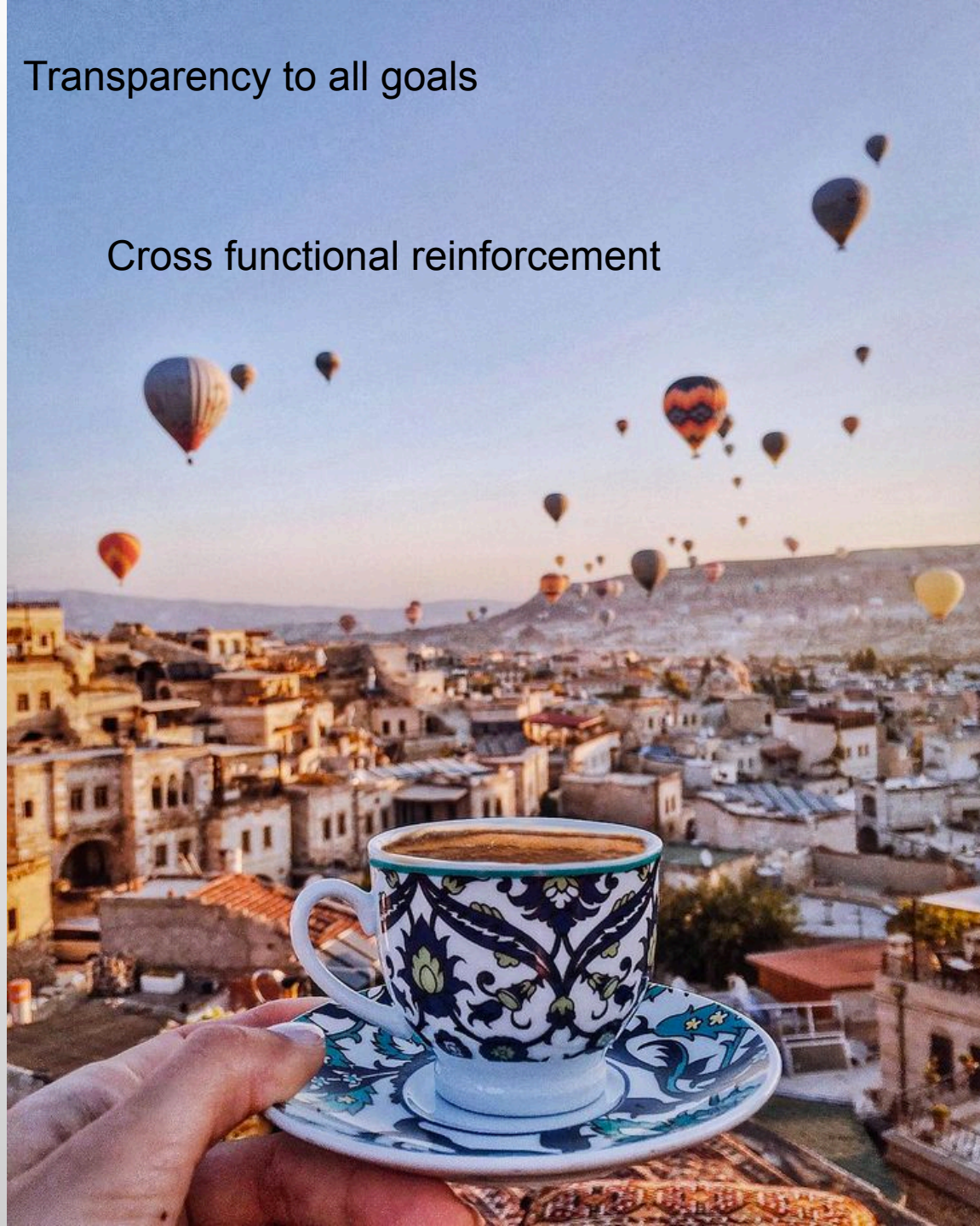
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Focus Rotation Methodology

Transparency to all goals

Cross functional reinforcement





Collaboration



Some Ideas

Decision making is one of the most poorly tracked program activities

Knowing what lead you to where you are is a big part about knowing where you are going

What's measured gets managed
and what's managed gets better

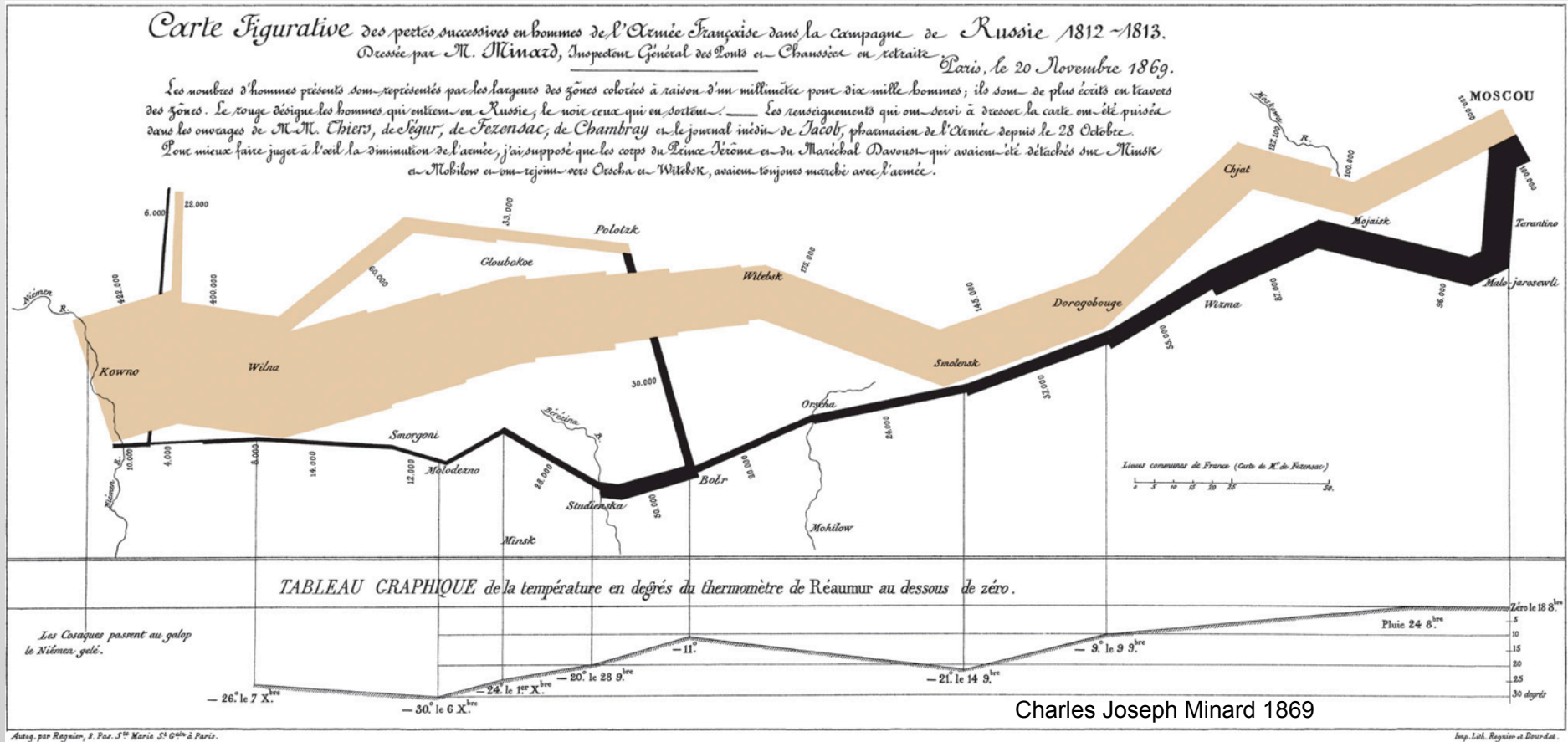
Saying stupid cliché quotes is bad business practice

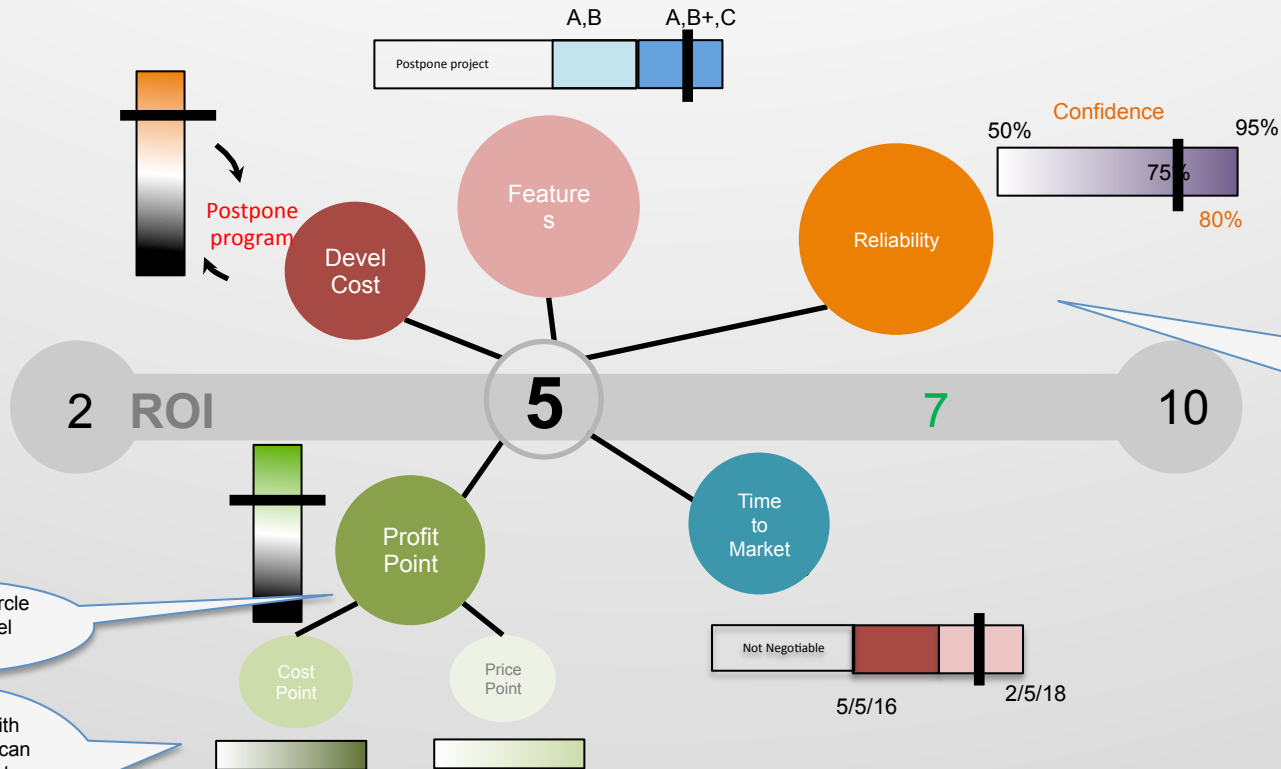


Information Graphics



Napoleon's Russian Campaign 1812-1813:
Beautiful documentation of an epic disaster



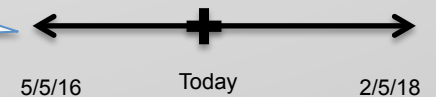


Distance from center indicate impact on ROI. Size of bubble indicates Biggest impact to schedule

Click/hover on circle opens next level down

For playing with equations you can click on items to lock/unlock them. Locked has a colored ring or ?

Adjust date to see future or history. Plays graphic like a movie as you slide



Mon Jul 24 2017

