

Prize Design Workshop

Getting started with
developing ambitious prizes



**All Hands on Deck:
Solving Complex Problems
through Prizes and Challenges**
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Overview and Workshop Objectives

Prizes and challenges spur innovation, solve tough problems, and advance core missions. In this workshop, you'll leave with a better understanding of what prizes are (and what they're not), and how to get started in designing them.

Audience Takeaways:



A better understanding of what prizes can help organizations achieve



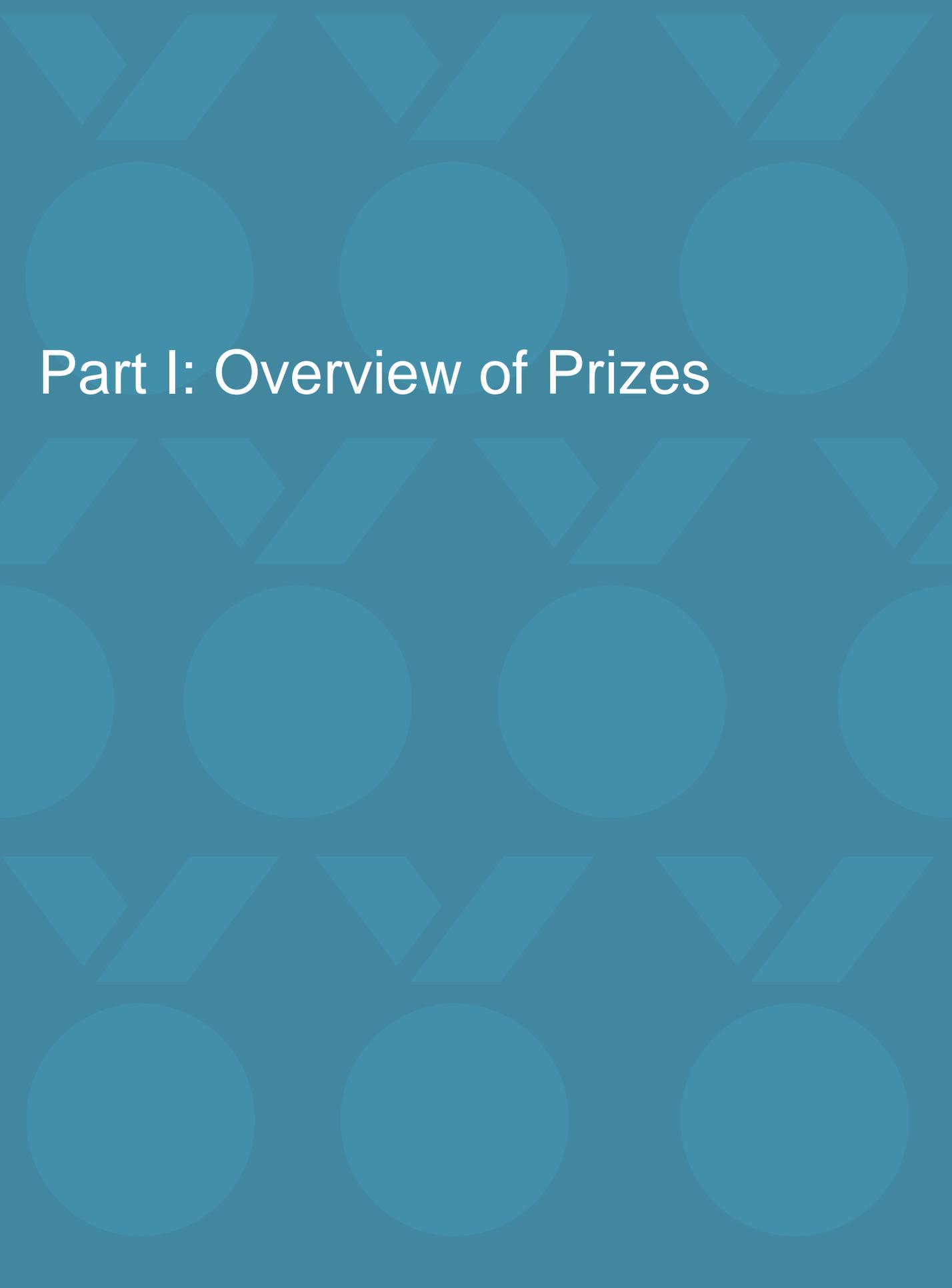
Templates for leading a prize design process in their agency



Experience walking through an abbreviated brainstorming and problem definition process (based on the “ambitious problem” brainstorming from lunch)



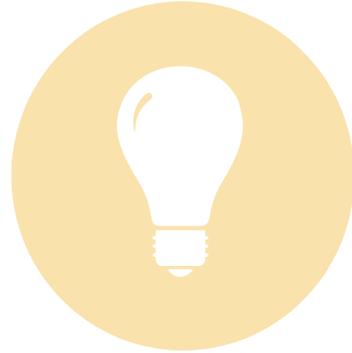
Tools for strengthening the problem-definition process with their team

The background is a solid teal color with a repeating pattern of light teal circles and triangles. The circles are arranged in a grid, and the triangles are arranged in a pattern that interlocks with the circles, creating a geometric, tessellated effect.

Part I: Overview of Prizes

What is a Prize?

Prizes and challenges are competitions offering success-contingent awards to participants in exchange for solving a defined goal in a defined time period. Participation is typically open to all and may include individuals, communities, government entities, businesses, institutions, or non-profit organizations.



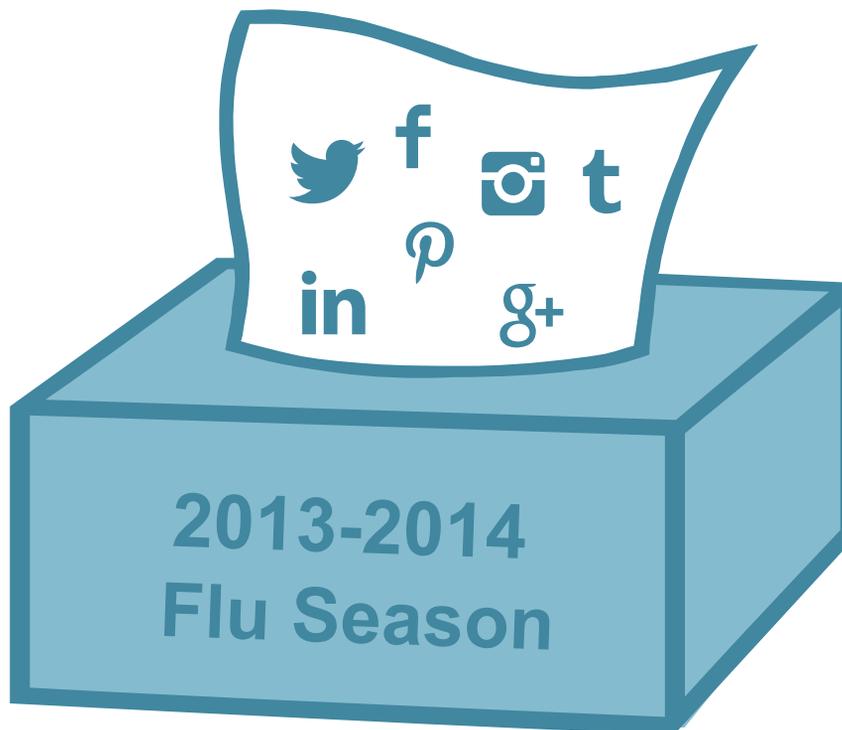
The awards are an incentive to participate and can include monetary rewards or non-cash rewards like recognition. Prizes and challenges typically seek solutions from a broad cross-section of citizens, including many new entrants or unlikely problem-solvers. Although they are traditionally used within the science and technology sectors, they carry great potential for unlocking major breakthroughs in many sectors.



What's an example?

The Predict the Influenza Season Challenge was a \$75,000 competition designed to foster innovation in flu activity modeling and prediction. The challenge was to find models that could successfully predict the timing, peak, and intensity of the 2013-2014 flu season using social media data (e.g., Twitter, Internet search data, web surveys). The Center for Disease Control (CDC) currently monitors flu activity using flu surveillance systems that do not utilize social media data or predict flu activity. With this challenge, CDC hoped to encourage exploration into how social media data can be used to predict flu activity and supplement CDC's routine systems for monitoring the flu.

Dr. Jeffrey Shaman and his team won the challenge by forecasting model using data from Google Flu Trends as well as CDC's influenza-like illness data. Shaman's team tested their model against actual flu activity that had already occurred during the season, so that by looking at the immediate past, Shaman and his team fine-tuned the model to better predict the future. In addition, Shaman's team presented their forecasts in a similar manner to how a meteorologist provides the chance of rain for each day's weather forecast. This approach helped communicate flu forecasting in a way that was meaningful to both public health officials and the public.



Source: Office of Science and Technology "Implementation of Federal Prize Authority: Fiscal Year 2014 Progress Report" (2015) https://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/fy14_competes_prizes_-_may_2015.pdf

Source: "CDC Announces Winner of the 'Predict the Influenza Season Challenge'" (June 2014) <http://www.cdc.gov/flu/news/predict-flu-challenge-winner.htm>

What can a prize achieve?

DEVELOPING IDEAS, TECHNOLOGIES, PRODUCTS, OR SERVICES



SOLICIT IDEAS

Ashoka Changemakers' G-20 Small and Medium Enterprise (SME) Finance Challenge called for ideas on how public interventions can unlock private finance for SMEs across the world.



PRODUCE, TEST, AND IMPROVE MODELS

The New York City Big Apps Challenge drove software developers to create apps that increase the accessibility of municipal data.



CREATE AND SCALE NEW MARKETS

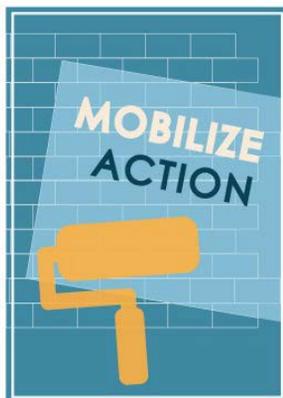
The Progressive Insurance Automotive XPRIZE, supported by the Department of Energy, sought to reshape the automotive industry by incenting companies to create a new generation of viable, energy-efficient vehicles.

ENGAGING PEOPLE, ORGANIZATIONS, AND COMMUNITIES



ENHANCE EXPOSURE AND EDUCATE ABOUT AN ISSUE

The Department of Health and Human Services (HHS), launched the "Stop Bullying Video Challenge" to help prevent and end bullying in schools and communities nationwide.



SPARK ENGAGEMENT AND BUILD SKILLS

The NASA Zero Robotics Challenge developed students' technology and engineering skills by having them develop the best algorithm to control robots on the International Space Center.



ORGANIZE FOR SUSTAINED CHANGE

The Aspen Prize for Community College Excellence sought to redefine "success" for community colleges, in order to improve educational outcomes.

Source: Deloitte University Press "The Craft of Incentive Prize Design: Lessons from the Public Sector" (2015)
<http://dupress.com/articles/the-craft-of-incentive-prize-design/>

What are the benefits of a prize?

1

Pay only for success and establish an ambitious goal without having to predict which team or approach is most likely to succeed

2

Reach beyond the “usual suspects” to increase the number of solvers tackling a problem and to identify novel approaches, without bearing high levels of risk

3

Bring out-of-discipline perspectives to bear

4

Increase cost-effectiveness to maximize the return on taxpayer dollars

Source: Office of Science and Technology “Implementation of Federal Prize Authority: Fiscal Year 2014 Progress Report” (2015)
https://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/fy14_competes_prizes_-_may_2015.pdf

What are the core elements of prize design?

Despite the unique nature of each prize, designers often use five design elements



Source: Deloitte University Press "The Craft of Incentive Prize Design: Lessons from the Public Sector" (2015)
<http://dupress.com/articles/the-craft-of-incentive-prize-design/>

When is a prize not the right choice?



1

Prizes should not be used when there is a clear, established, effective approach to solve a problem

- A prize's strength comes from its ability to incent participants to create novel solutions

2

Prizes should not be used when potential participants are unwilling or unable to dedicate time and resources to solve the problem

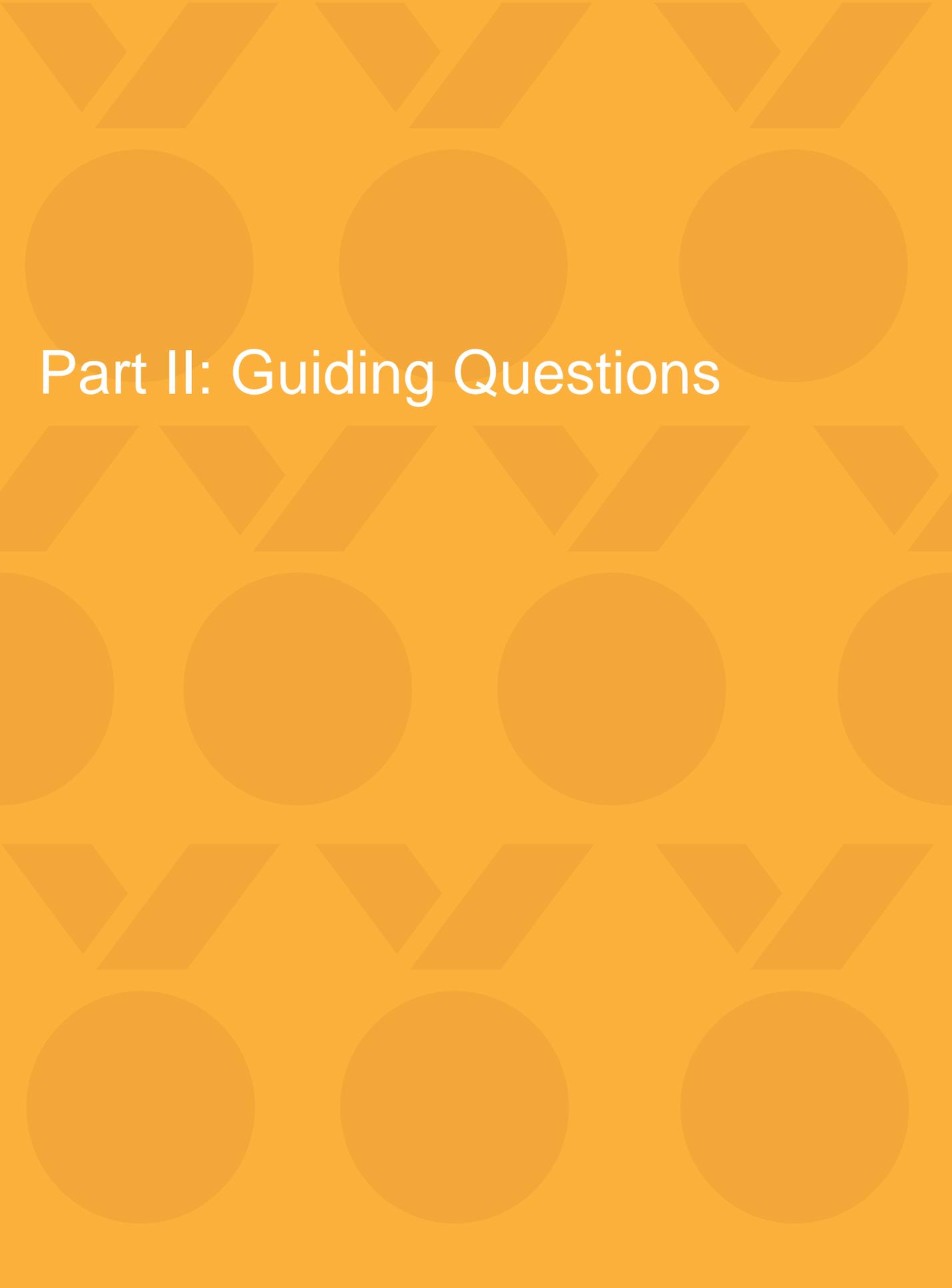
- Prize designers need to understand the risk tolerance and capabilities of their potential participants before committing to the use of a prize that requires their engagement to be successful

3

Prizes should not be used when there are only a limited number of participants who can address the problem.

- If the universe of participants is small and known, then a prize may not be necessary. Instead, use other types of challenges, such as “pay for performance” approaches that issue grants or contracts with milestone-based payment terms

Source: Deloitte University Press “The Craft of Incentive Prize Design: Lessons from the Public Sector” (2015)
<http://dupress.com/articles/the-craft-of-incentive-prize-design/>



Part II: Guiding Questions

Quiz: Is a prize appropriate for you?

1. ***Is the culture and environment of your organization open to innovation and new approaches?***
 - A. Yes, the political environment of my organization is open to trying new things and has dedicated resources (i.e., time, energy, money) to new ideas previously
 - B. My organization is open to innovation, but it is difficult to gauge how willing leaders might be to dedicating resources to innovative approaches
 - C. In some ways yes, and in some ways no; I believe that some leadership are open to innovation, but others are not
 - D. Based on my experience working here, it is unlikely that leadership would be open to new ideas
 - E. No, recent experiences have made it clear that leadership is not willing to try something new and innovative

2. ***Do you have a well-defined problem that has not been solved?***
 - A. Yes, I can think of a specific problem that despite previous interventions, has not been solved
 - B. I can think of specific problems, but perhaps they can be solved using a few different strategies
 - C. No, I can't think of a particular problem that cannot be solved using traditional strategies

3. ***If the problem was solved, would there be a clear, measureable result that could be used to pay out incentives?***
 - A. Yes, there is a clear, measureable outcome
 - B. Yes, there is a clear outcome, but for various reasons I'm not sure how to measure that outcome
 - C. No, the outcome I'm trying to achieve is impossible to measure

4. ***Will solving your challenge deliver a sustainable impact that is inherent to the mission of your organization?***
 - A. Yes, solving the challenge would deliver a sustainable impact that is inherent to the mission of my organization and perhaps if scaled, could generate global impact
 - B. Solving the challenge may or may not deliver a sustainable impact that is inherent to the mission of my organization
 - C. No, solving the challenge will not deliver a sustainable impact that is inherent to the mission of my organization

5. ***Can you identify a potential solver community that would be interested in participating in your prize? Or put another way, do you have a sense of the risk tolerance and capabilities of your potential participants?***
 - A. Yes, I know exactly how to attract solvers from multiple disciplines to solve our problem
 - B. I have some ideas for ways to attract solvers to help solve our problem
 - C. No, I do not know how to attract solvers to help me solve our problem

Quiz: is a prize appropriate for you?

6. ***Can your organization offer the appropriate financial incentives (e.g. prize purse) to incent solvers to achieve desired outcomes?***
- A. Yes, I believe my organization can offer the appropriate financial incentives (prize purse) to convince solvers to participate in the prize and achieve desired outcomes and my organization has done this before
 - B. I believe my organization could offer appropriate financial incentives to convince solvers to achieve desired outcomes; however, they have not done this before
 - C. No, my organization does not seem like it could offer the appropriate financial monetary incentives to convince solvers to achieve desired outcomes
7. ***Can your organization offer the appropriate non-monetary incentives (e.g. marketing, networking) to incent solvers to achieve desired outcomes?***
- A. Yes, I believe my organization can offer the appropriate non-monetary incentives to convince solvers to achieve desired outcomes and they have done this before
 - B. I believe my organization could offer appropriate non-monetary incentives to convince solvers to achieve desired outcomes; however, they have not done this before
 - C. No, my organization does not seem like it could offer the appropriate non-monetary incentives to convince solvers to achieve desired outcomes
8. ***Is your organization willing to commit several months to designing and executing a prize?***
- A. Yes, my organization has the commitment to design and execute a prize over many months
 - B. My organization is not sure if we'd be able to dedicate several months to this effort
 - C. No, my organization cannot commit several months to designing and executing a prize
9. ***Is your organization willing to place few, if any, controls on the way that a solver accomplishes that outcome?***
- A. Yes, I believe my organization would be willing to provide a solver significant autonomy over how that outcome is achieved
 - B. I think my organization would allow a solver to create its own approach but would most likely require the solver to receive approval on the details before putting that plan into action and for any changes
 - C. No, my organization is risk averse and would want to maintain control over a project and prescribe specific activities

Scorecard

Diagnostic Scoring

Using the table below, total up your points and determine to what extent you are prepared to use a prize.

Question	Point Values by Answer Option					Your Points
	A	B	C	D	E	
Question 1	5	4	3	2	1	
Question 2	5	3	1	-	-	
Question 3	5	3	1	-	-	
Question 4	5	3	1	-	-	
Question 5	5	3	1	-	-	
Question 6	5	3	1	-	-	
Question 7	5	3	1	-	-	
Question 8	5	3	1	-	-	
Question 9	5	3	1	-	-	

Total Score

If your **Practical Score** is...

0-15



Your score indicates that a prize may not be the best fit for you and your particular situation right now

16-30



Your score indicates that a prize might work in your situation, but additional work needs to be done to determine if you should explore the development of a prize

31 - 45



Your score indicates that you are in a great situation where you have the willingness, support, and clear outcome needed to develop a prize



Part III: Prize Development

Now that you've chosen to pursue a prize, here are two important questions to ask yourself.

1. What is the problem you'd like to solve?

Consider as much as possible the root cause of the problem

2. Why has it not been solved already?

Consider regulatory barriers, market failures, lack of a well-defined problem, and the competitive landscape

Deconstruct the problem

1. How is the prize addressing the problem?

Is it addressing a portion or the entirety of the problem? How is the prize complementing or reinforcing other efforts?

2. What is the desired prize output, and long-term outcome?

What do you expect solvers to deliver? What impact do you immediately expect? What about the longer term goal?

3. What solutions already exist? If the ideal doesn't exist, what is the next best thing?

Who are the market players? What disciplines have already solved a similar problem?

4. Can you communicate the problem in a succinct and compelling way to a general audience?

The type of jargon you use will determine what kinds of solvers will be attracted to your problem

5. Can the quality of the output be evaluated in a systematic way?

Will you be able to select a winner or winners? Are the output measurements objective or subjective?

What are the prize design elements?

Prize challenges typically consist of five components:



Motivators

Cash. Mentorship. Recognition. Collaboration. Networking.



Structure

Rules. Eligibility. Timeline. Stages. Requirements.



Evaluation

Selection criteria. Judges. Judging protocols. Impact measurement.



Resources

Funding. Labor. Data. Platforms. Facilities. Partnerships.



Communications

Marketing. Stakeholder management. Recruitment.

Motivators

Cash. Mentorship. Recognition. Collaboration. Networking

Guiding Principles

1. The prize award itself is the most visible motivator. However prizes have offered a diverse set of motivators, including:
 - Cash purses
 - Public recognition
 - Travel
 - Capacity building (e.g., structured feedback and skills development)
 - Networking opportunities (e.g., trips to conferences)
 - Commercial benefits (e.g., investment and market commitments)
2. The size and type of award provides designers with important signaling opportunities.

Questions to consider

1. Who are your target solvers?

This is a starter list and not meant to be exhaustive (ideally you won't know all your target solvers). Think about disciplines, organizations, expertise, and skillsets you desire.

2. What's the right size and type of incentives to use for your prize based on the solver community you are trying to motivate?

Consider not just the incentive to participate, but the incentive to produce high-quality solutions. Sometimes both intrinsic (e.g. appealing to an individual's passions) and extrinsic (e.g. financial awards) are useful.

3. Are you expecting individuals, small teams, or larger organizations to participate? Do you seek existing teams or newly-formed teams?

Consider the range and combination of skillsets needed to solve your problem, and whether that can be delivered by an individual or existing teams.

4. What intellectual property terms will you require of solvers?

This depends greatly on your desired outcomes, you can allow solvers to retain full ownership, require some royalty-free license to the prize sponsors or others, or buy the rights as part of the competition.



Motivators



Structure



Evaluation



Resources



Communications

Structure

Rules. Eligibility. Timeline. Stages. Requirements

Guiding Principles

1. Set of constraints that determines the scale and scope of the prize, as well as who competes, how they compete, and what they need to do to win.
2. Rules that shape the prize's operations, classes for different types of participants, eligibility requirements, intellectual property requirements, timeline, stages, and other parameters.
3. For successful prizes, significant time should be spent determining the prize structure.

Questions to consider

1. What will be the eligibility requirements?

Who will be eligible and what terms must they abide by?

2. What is the appropriate prize length?

Will the time frame be open-ended (i.e. open until someone solves it?) or fixed?

3. Will you segment the prize into rounds?

Rounds can be useful to cast a wide net initially and select promising ideas to advance



Motivators



Structure



Evaluation



Resources



Communications

Evaluation

Selection criteria. Judges. Judging protocols. Impact measurement

Guiding Principles

1. Evaluation includes both how the solvers will be judged and the effectiveness of the prize itself in achieving its goal.
2. Proper evaluation is critical because it can affect whether participants view the prize as fair, shape the validity of the results, and determine its success.
3. Evaluation is also an essential input to prize management both to improve implementation processes and to inform decisions about whether to use a prize again.

Questions to consider

1. How will you evaluate the solutions?

What are the evaluation criteria? Are there specific quantifiable metrics? Who is responsible for those measurements?

2. Are there success measures of the prize beyond the quality of the solutions?

E.g., number of participants, solutions. Promotion and outreach impact, or partnership of additional stakeholders (investors, end-users, government funders, companies)

3. How will you identify the most appropriate judges?

Does the judging panel provide a fair and objective way to assess solvers? Are the panel members providing a multi disciplinary perspective (e.g. government, business, legal, technical).

4. What will you measure about the process itself?

How will you evaluate yourself and how well the prize was administered? What kind of lessons will you seek to learn?



Motivators



Structure



Evaluation



Resources



Communications

Resources

Funding. Labor. Data. Platforms. Facilities. Partnerships

Guiding Principles

1. There are four critical resource phases: design, implementation, award, and post prize “legacy” activities.
2. Funding is a major resource requirement and include prize administration, labor costs, technology, marketing, events, travel, and testing facilities.
3. It is important to identify the right mix of in-house and external support by first assessing the organization’s abilities.

Questions to consider

1. Do you have a sense of the ratio of administration costs to prize purse? (Labor, Tech platform, Marketing, Events, Travel, Verification)

2. Will you have partners? If so, what roles will your partners play? (Host, Coordinator, Contributor)



Motivators



Structure



Evaluation



Resources



Communications

Communications

Marketing. Stakeholder management. Recruitment.

Guiding Principles

1. Communications serve several different strategic goals:
 - Attract participants
 - Spur them to compete and stay engaged
 - Maintain interest afterwards
 - Keep partners and stakeholders informed about the purpose and progress of the prize
2. Effective prizes use robust branding plans to build recognition and credibility among participant and stakeholder communities using press releases, social media, and targeted invitations to convenings and events.

Questions to consider

1. How will solvers be recruited?

2. How will your organization engage with participants throughout the challenge?

3. How will your organization engage with participants post-award?

4. How will your organization engage with partners?

5. Will partners engage directly with participants?



Motivators



Structure



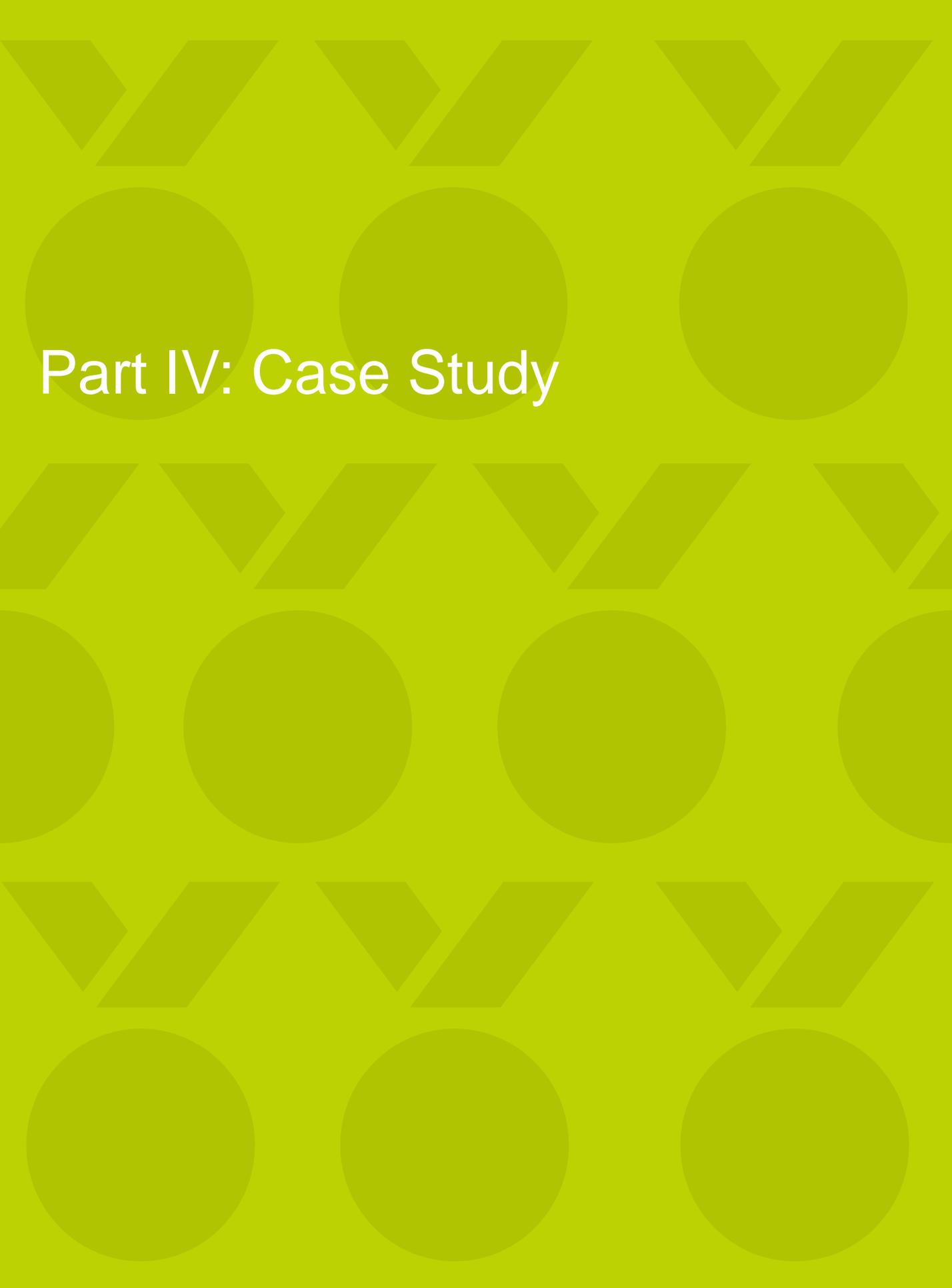
Evaluation



Resources



Communications



Part IV: Case Study

Longitude Prize Example

How it started



1714 Longitude Act to find Longitude



Meeting at 10 Downing street to announce the new Longitude prize



2013 Lord Martin Rees, astronomer Royal writes about the need for a new Longitude prize



Formation of the new Longitude committee who selects **themes**

Challenge Identification

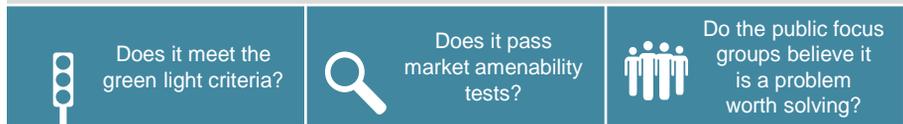
Thematic subcommittees of UK's leading experts



Experts came up with a list of problems and ideas under each theme

Challenge Selection

Which problems are suitable for a challenge prize?



No

Yes



Challenge Research & Refinement

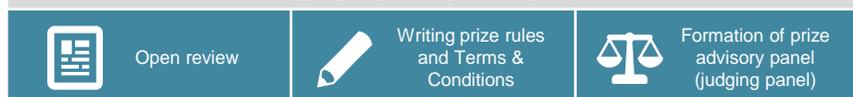


And the Winner is...

Longitude Prize 2014 Antibiotics



Prepping to open the prize competitions



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