



# DESIGNING MACHINE LEARNING

*A Multi-Disciplinary Approach*



*Integrate  
Diverse Values*

*Collaborate  
Effectively*

*Prototype &  
Roadmap*

**data designer**

*Deconstruct  
Systems*

*Imagine &  
Envision*



GROUP ACTIVITY

*Mapping Out  
Values In Context*

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*mapping out values in context*

**“Pre-Mortem:”  
Using hypothetical  
retrospectives to  
inspire insights about  
current practices**

# *mapping out values in context*

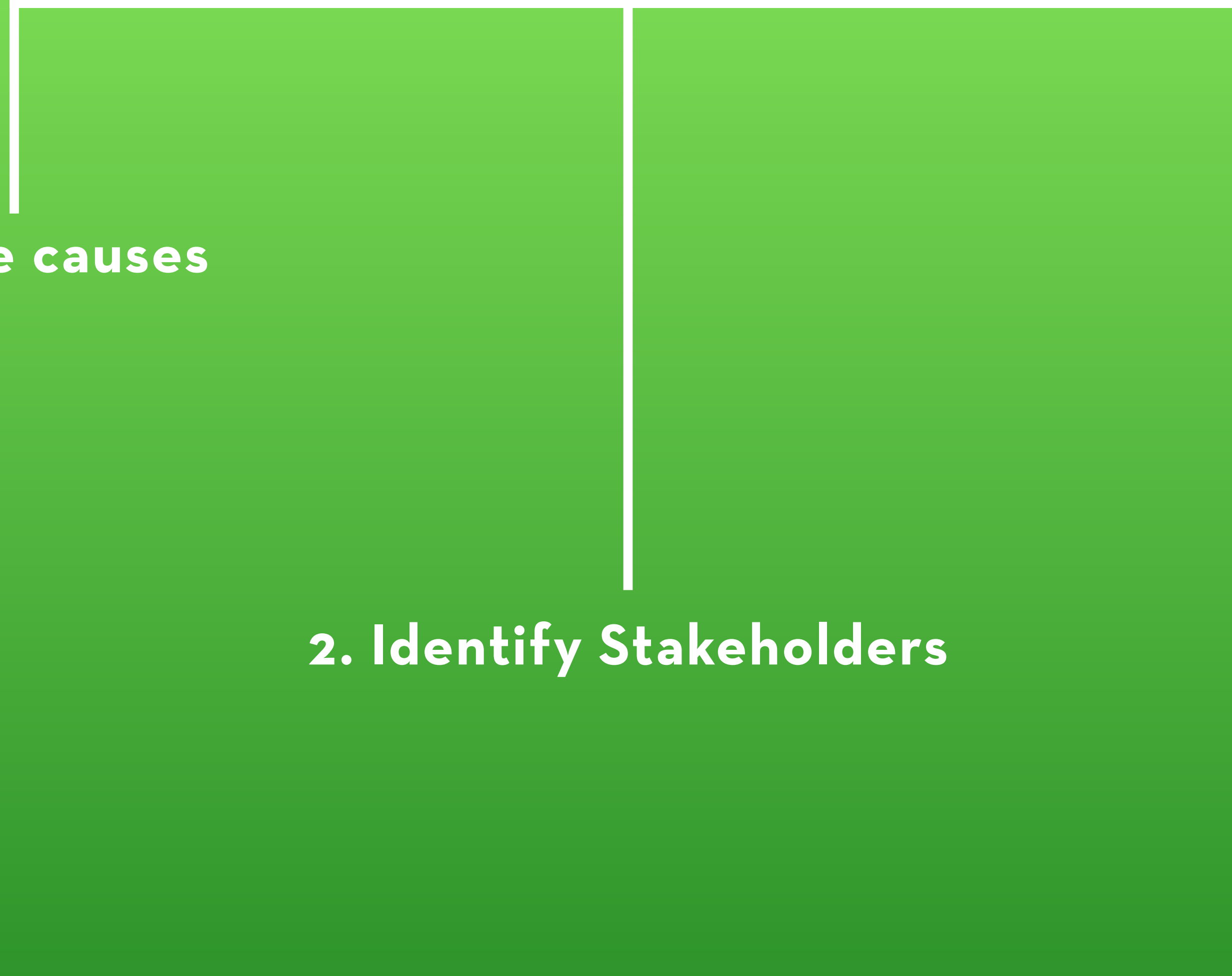
<b>Human Resources Recommender</b>	<b>Supply Chain Sustainability</b>
<b>Credit Scoring Conundrum</b>	<b>Genetics Targeted Ads</b>

# *mapping out values in context*

**1. Trace causes**

**2. Identify Stakeholders**

**3. Generate Ideas**



## PART 1

# *Trace Causes*

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**Make a list of all the possible reasons or factors that contributed to this situation. Use the following categories to spark your thinking, but feel free to go beyond them. Draw arrows between related causes.**



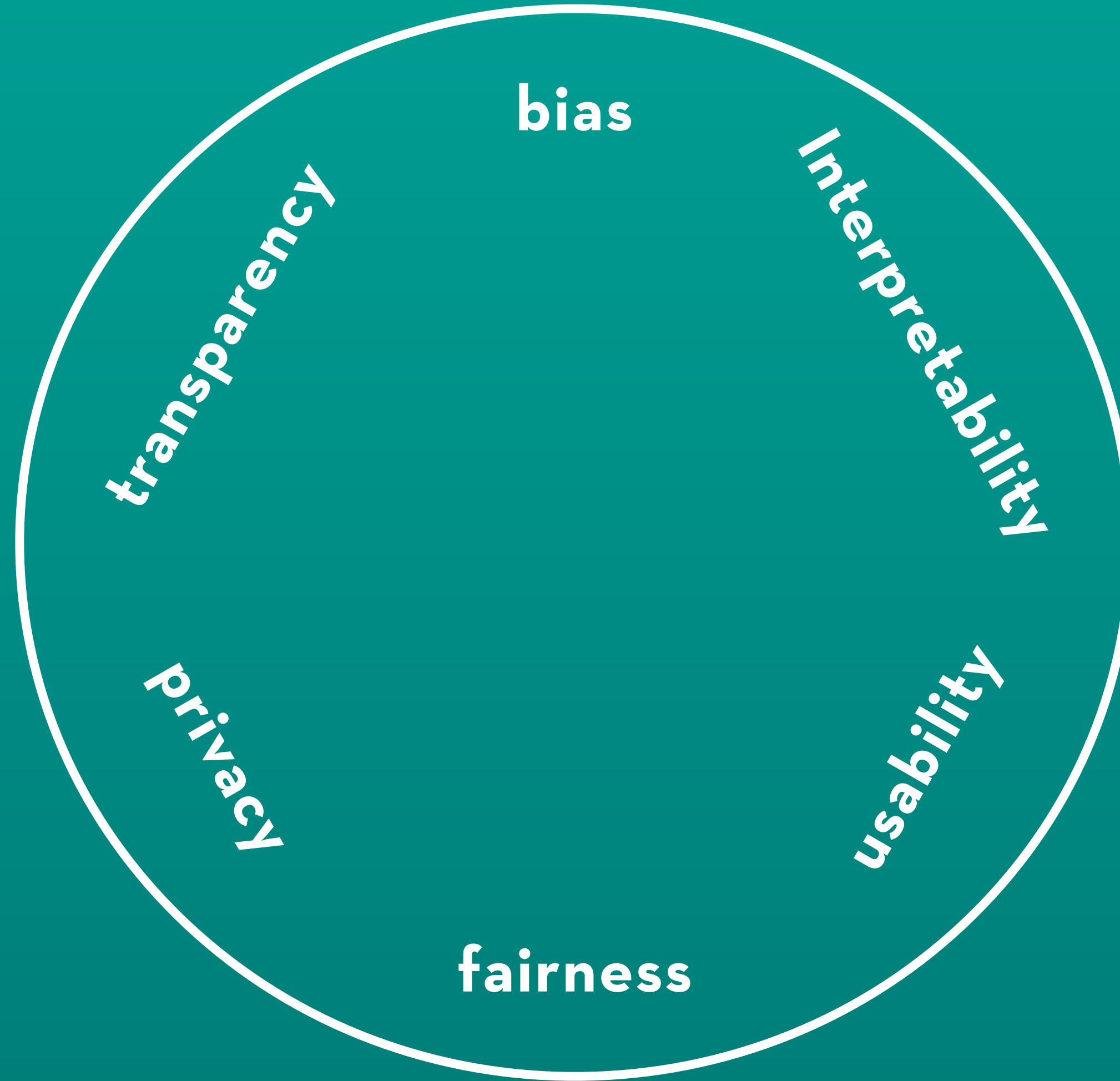
## PART 2

# *Identify Stakeholders*

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**Identify five distinct stakeholders (i.e. user groups) in this scenario and describe their possible needs. How did the system in question respond to their needs? Did it respect them? Take advantage of them? Ignore them?**

# VALUES



**bias**

**Interpretability**

**usability**

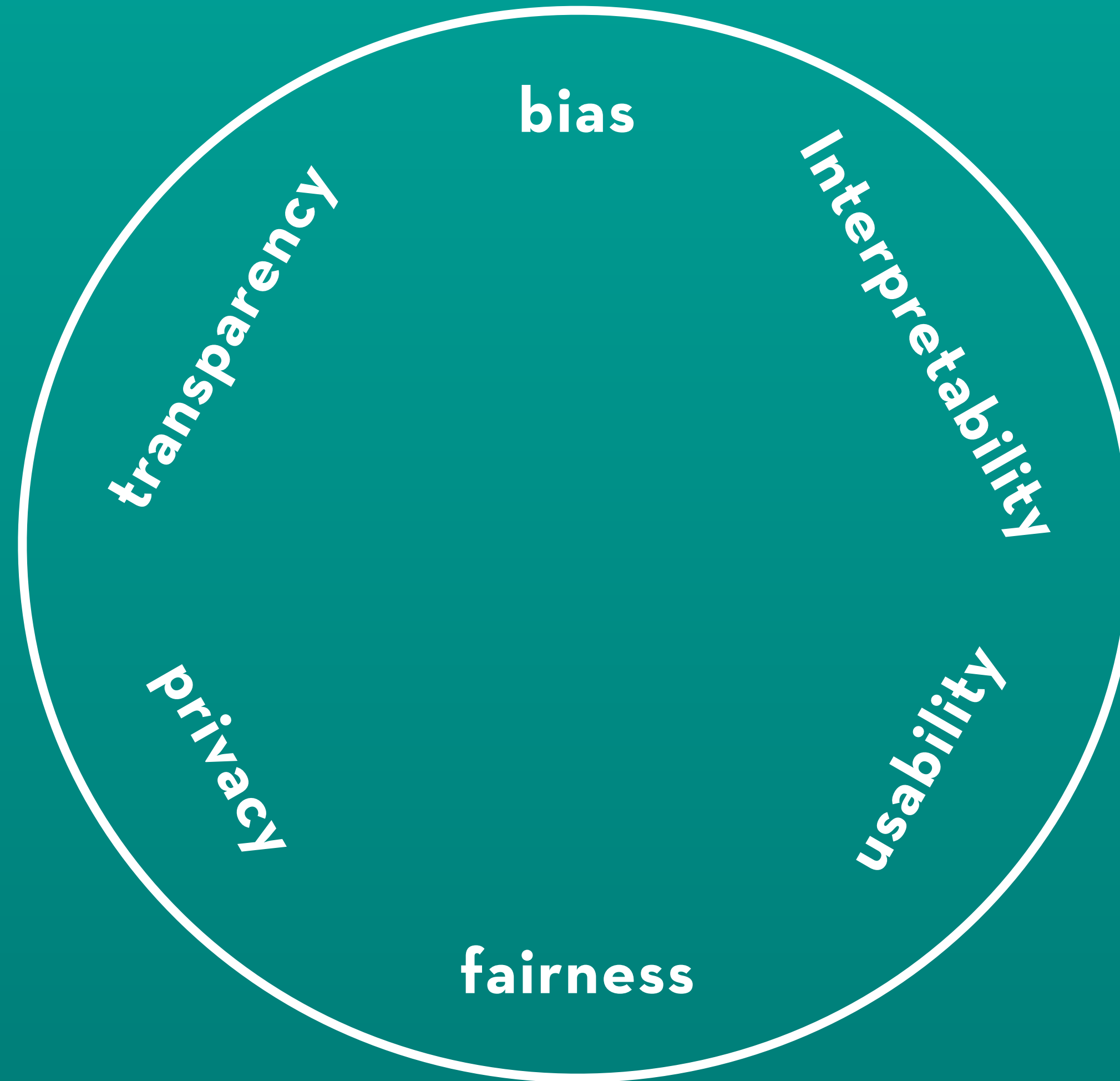
**fairness**

**transparency**

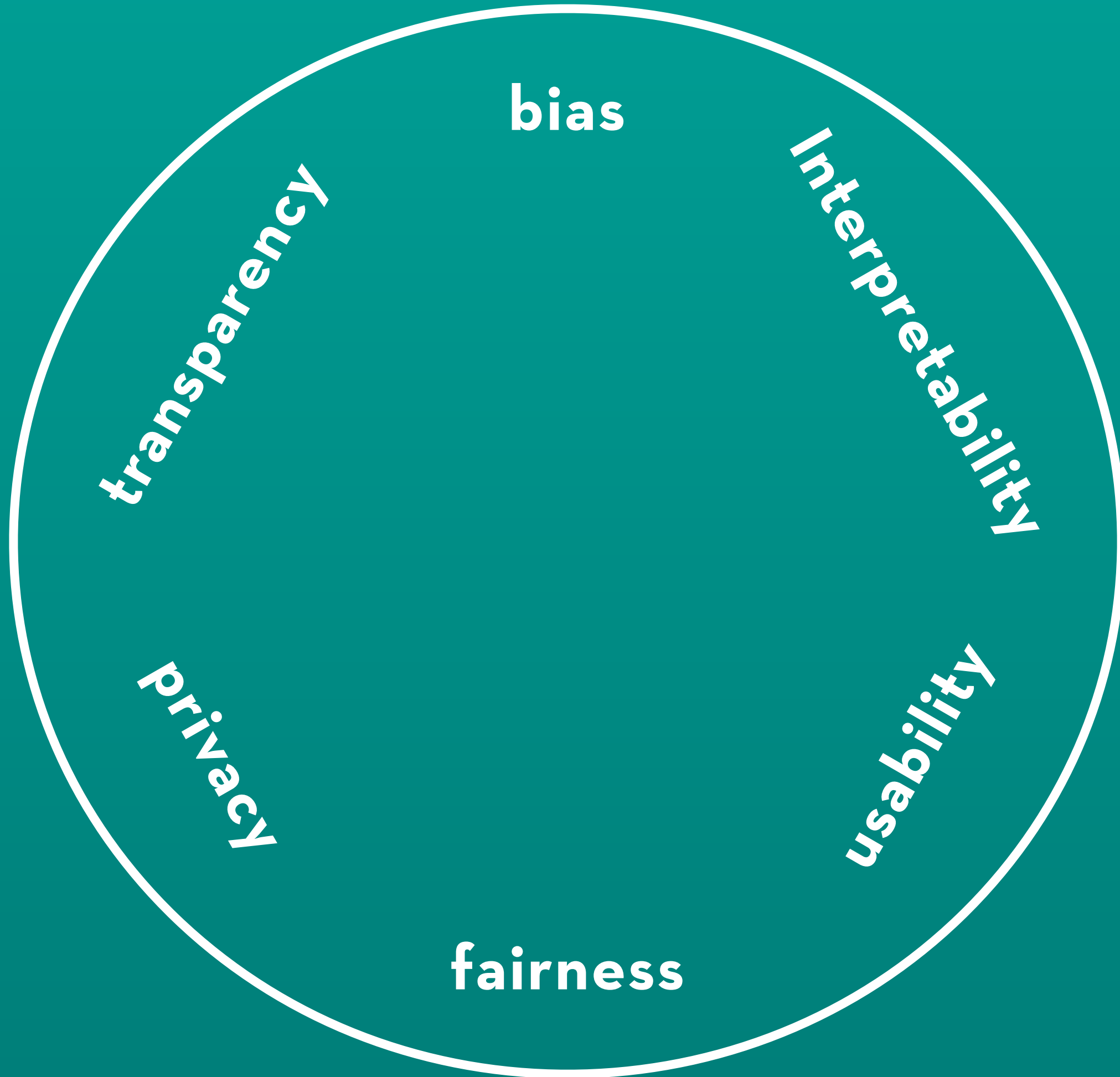
**privacy**

**Are there decisions or  
outcomes that should be  
explainable?**

**VALUES**



# VALUES



**Does your system  
take responsibility  
for its knowledge?**

# VALUES

**bias**

**Interpretability**

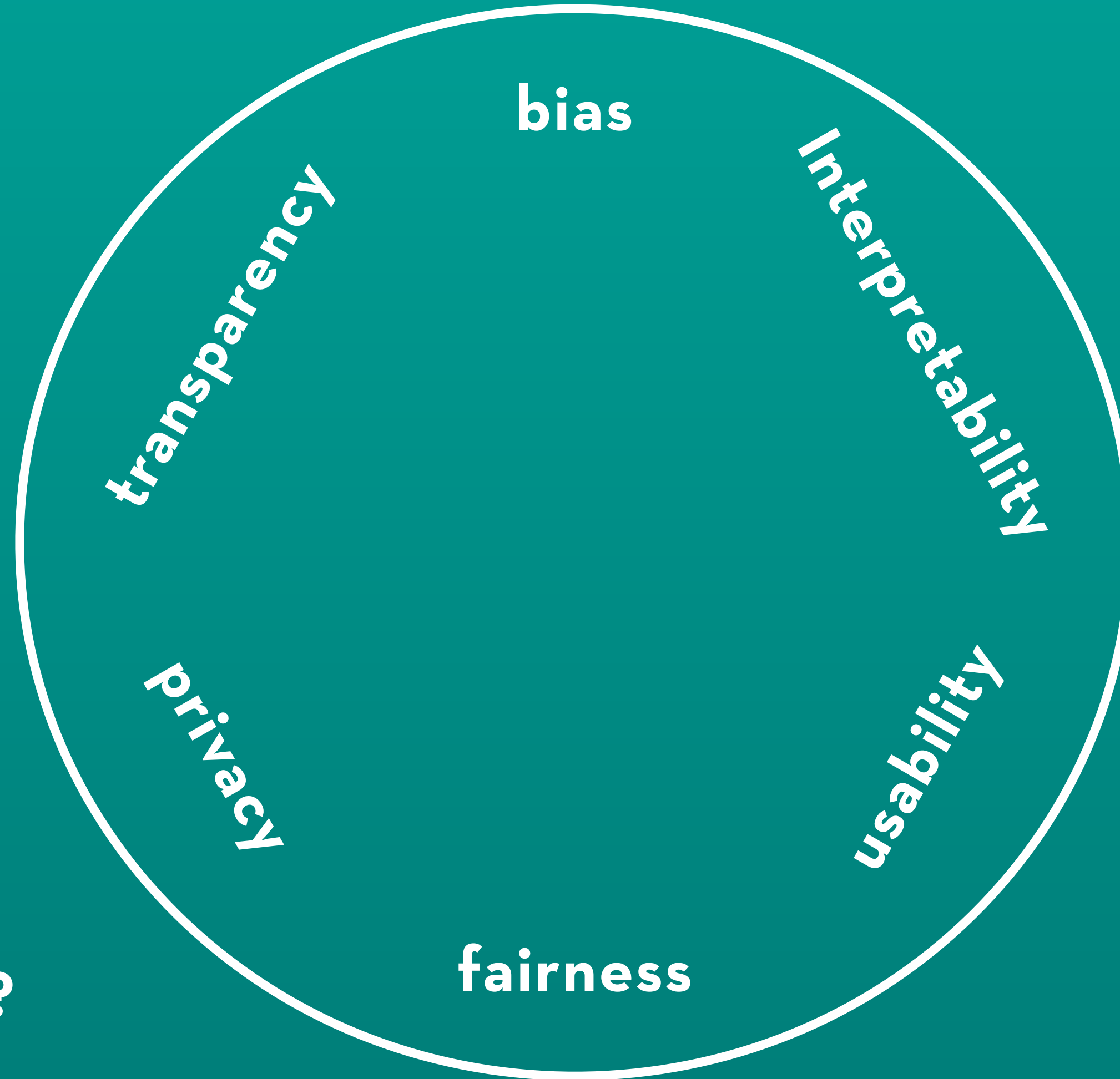
**transparency**

**usability**

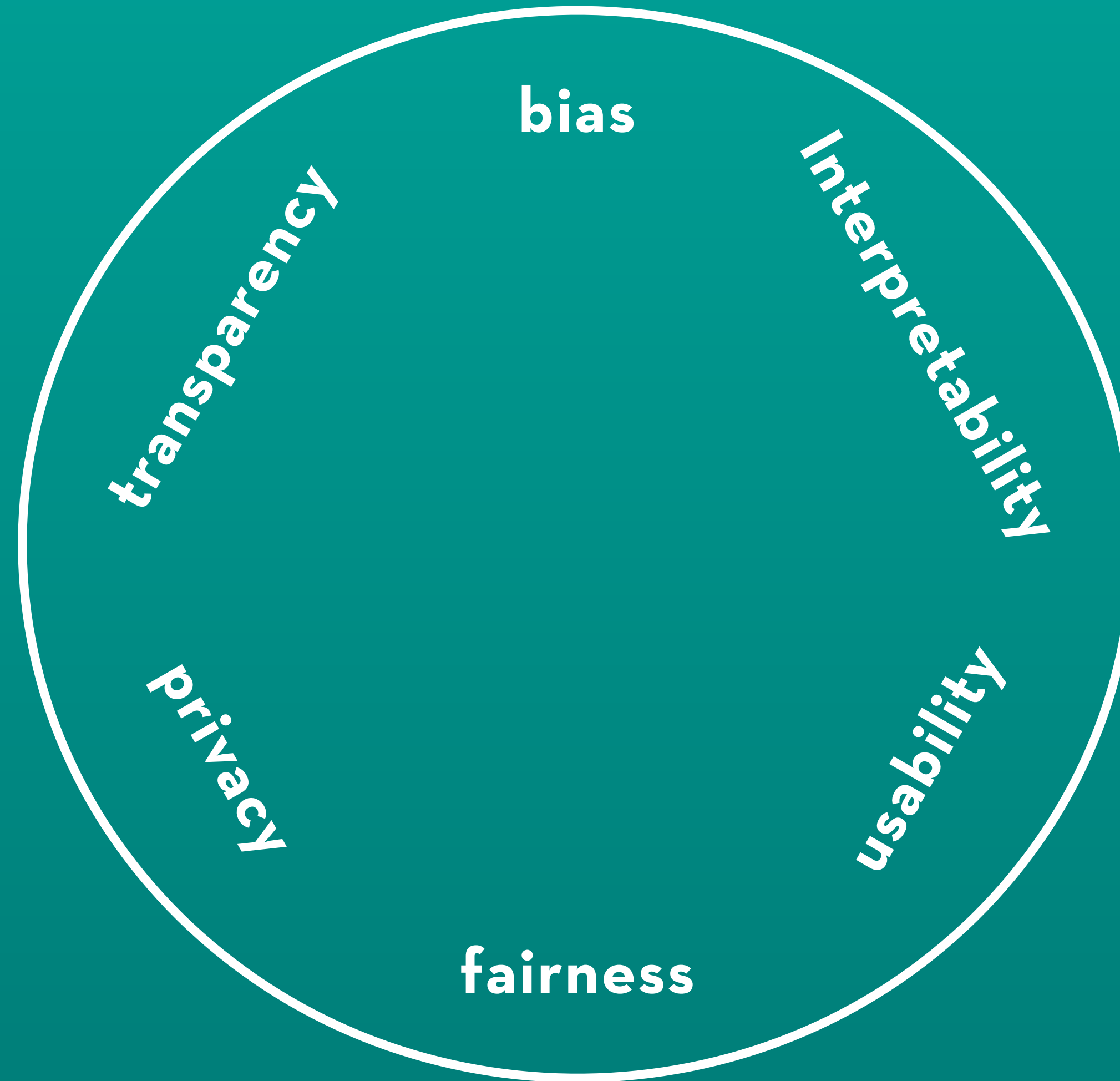
**privacy**

**fairness**

**Does the system have  
the possibility to  
exclude or discriminate?**

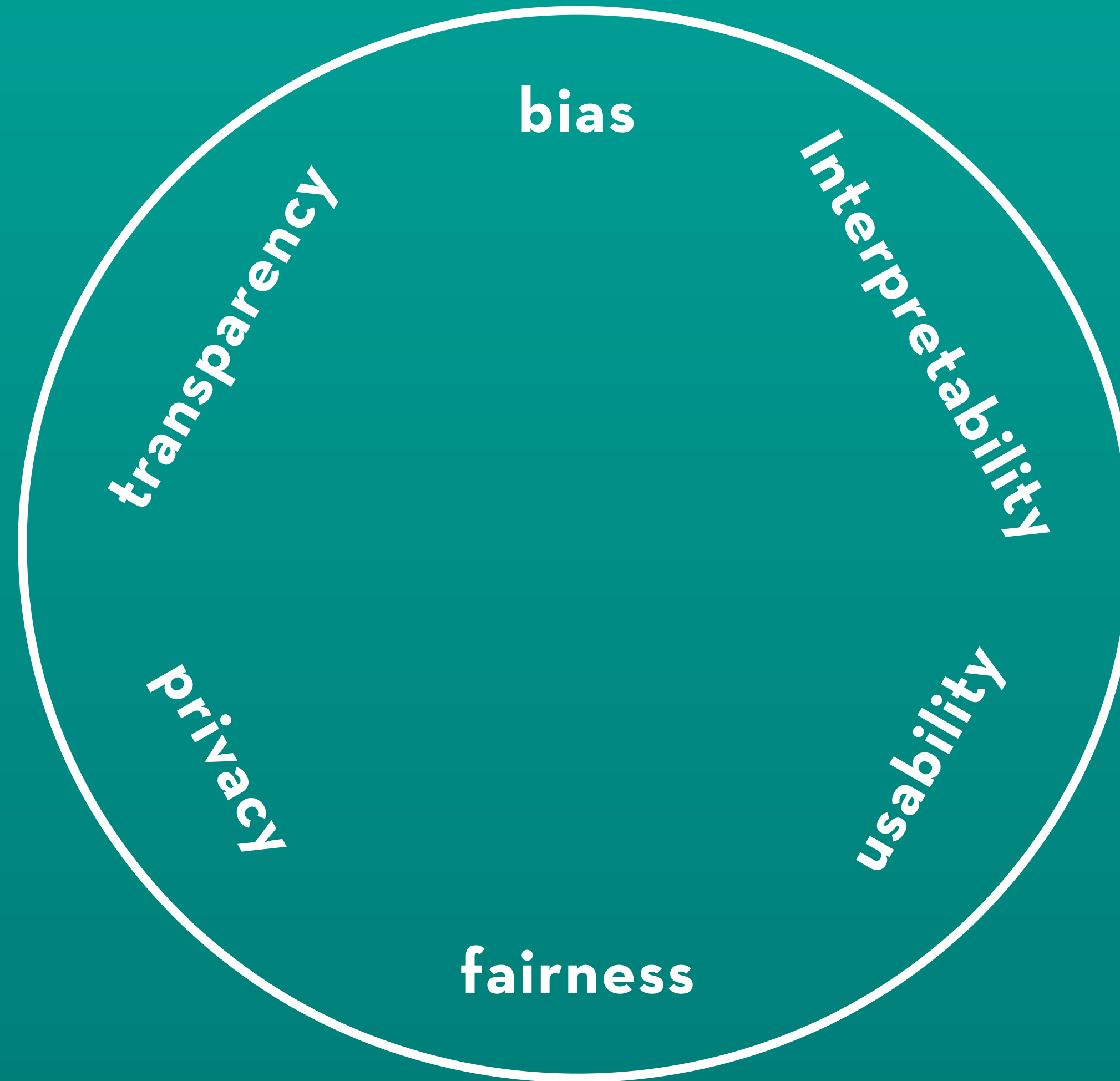


# VALUES



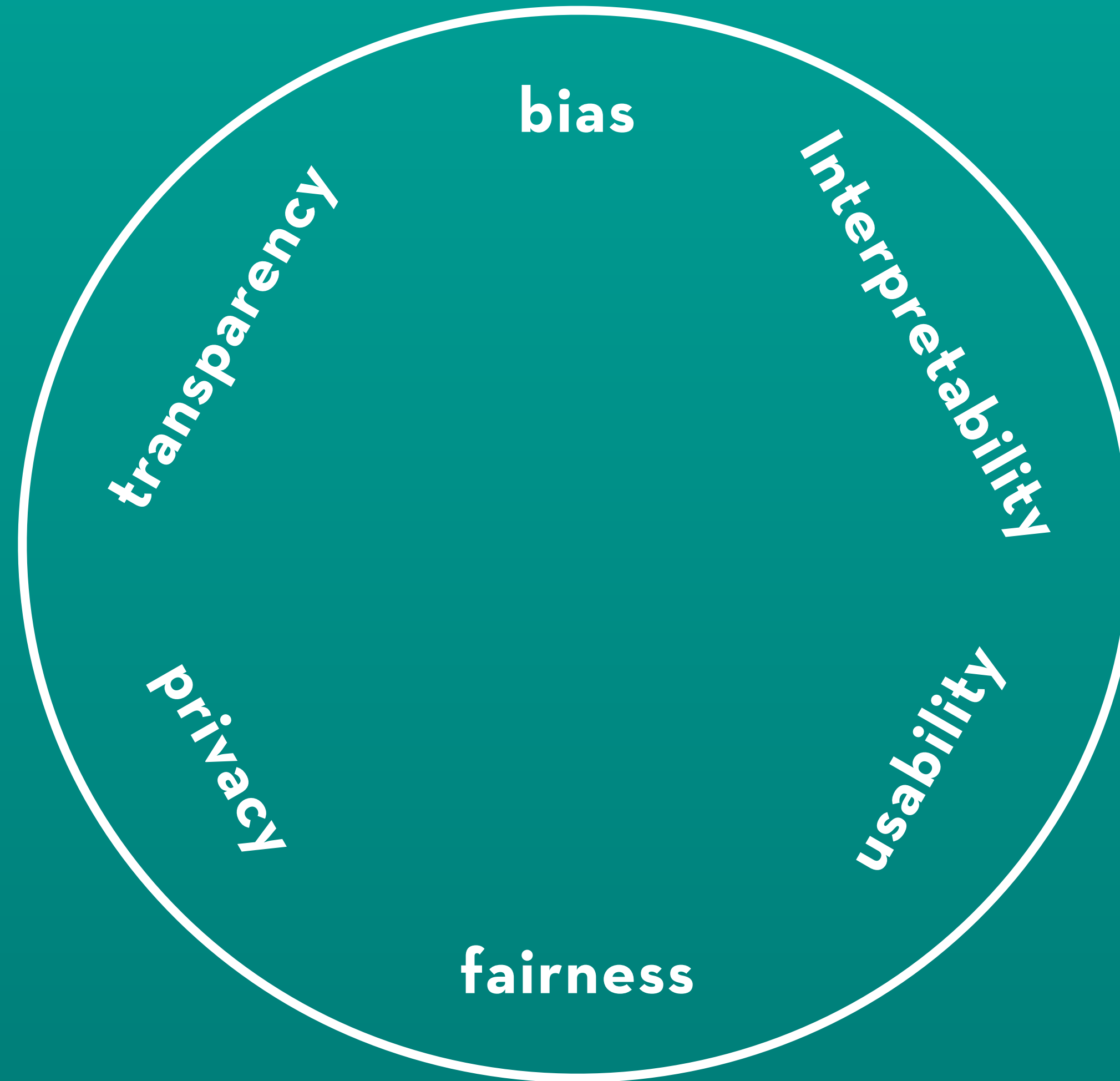
How well does your system represent its stakeholders?

# VALUES



**What kinds of claims  
can others make  
about your system?**

# VALUES



**Is there a learning curve and what is it like to climb it?**



**VALUES**

**bias**

**Interpretability**

**usability**

**fairness**

**transparency**

**privacy**

**Are there decisions or outcomes that should be explainable?**

**How well does your system represent its stakeholders?**

**Does your system take responsibility for its knowledge?**

**What kinds of claims can others make about your system?**

**Does the system have the possibility to exclude or discriminate?**

**Is there a learning curve and what is it like to climb it?**

**Technology Centered**

**Organization  
Centered**

**Human Centered**



## PART 3

# *Generate Ideas for More Intentional Practices*

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**Choose a few elements from the previous pages that may not have been handled or addressed in an intentional way. Envision ways to improve the future production of similar products and services through three different lenses. Write or sketch as many ideas as your group can generate.**