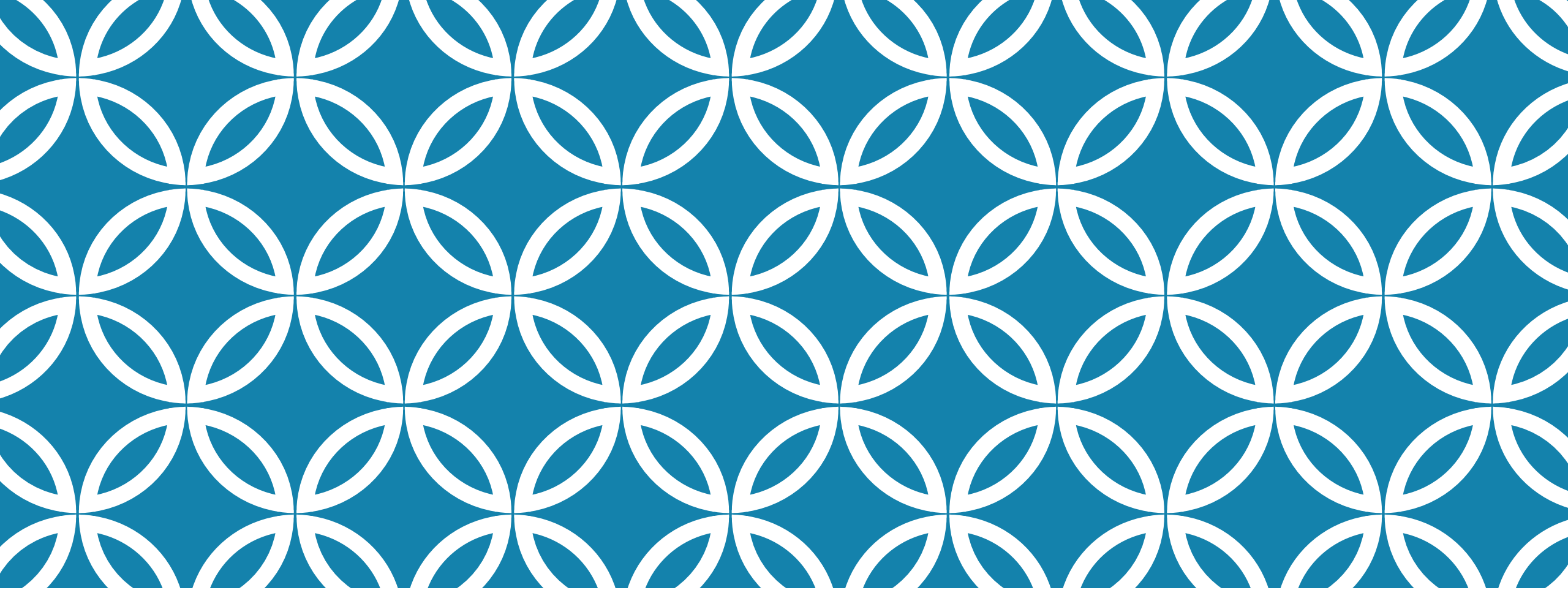

CHAPTER 2

DISCUSSION QUESTIONS

1. What are some of the advantages and disadvantages of a) individuals as innovators, b) firms as innovators, c) universities as innovators, d) government institutions as innovators, e) nonprofit organizations as innovators?

2. What traits appear to make individuals most creative? Are these the same traits that lead to successful inventions?

3. Could firms identify people with greater capacity for creativity or inventiveness in their hiring procedures?

4. To what degree do you think the creativity of the firm is a function of the creativity of individuals, versus the structure, routines, incentives, and culture of the firm? Can you give an example of a firm that does a particularly good job at nurturing and leveraging the creativity of its individuals?

1. WHAT ARE SOME OF THE ADVANTAGES AND DISADVANTAGES OF A) INDIVIDUALS AS INNOVATORS, B) FIRMS AS INNOVATORS, C) UNIVERSITIES AS INNOVATORS, D) GOVERNMENT INSTITUTIONS AS INNOVATORS, E) NONPROFIT ORGANIZATIONS AS INNOVATORS?

	Advantages	Disadvantages
Individuals	Many creative ideas originate individuals; Users may best understand their own unmet needs; Users may have great incentive to solve their own problems; Etc.	Individuals often have very limited capital resources to invest in an innovation project; Many innovations require a broader range of knowledge and skills than any individual possesses; Etc.
Firms	Significant capital to invest; Complementary assets to produce, distribute, etc.; Management systems to organize innovative efforts, Etc.	May reject projects that don't appear to have an immediate commercial return; May base project choices on commercial return rather than importance to customers or society; Etc.

	ADVATNAGES	DISADVANTAGES
Universities	Typically have extensive knowledge and other resources; Can often invest in long-term or risky projects for purposes of advancing science (rather than being pressured for immediate commercial return); Often have ties to multiple other external entities (e.g., government, non-profits, etc.)	May pursue esoteric projects rather than those with immediate applications; May lack skills or resources to implement innovations in the marketplace, Etc. Lack of financial discipline may lead to less efficient development processes.

	ADVANTAGES	DISADVANTAGES
Government	Like universities, may have extensive knowledge and other resources; and Can often invest in long-term or risky projects for purposes of advancing science (rather than being pressured for immediate commercial return); Typically has great influence over other stakeholders or contributors to innovation (e.g., universities, firms, non-profits); Etc.	May lack complementary resources to implement innovation in the marketplace; Lack of financial discipline may lead to less efficient development processes, Etc.

	ADVANTAGES	DISADVANTAGES
Nonprofits	Often have ties to multiple other external entities (e.g., universities, non-profits, etc.); May have mission-based focus that enables them to pursue long-term or risky projects; May have credibility advantages for eliciting the cooperation of other stakeholders; Etc.	May be reliant on external sources of funding such as charitable donations or grants, which can constrain capital resource; May lack complementary resources to implement innovation in the marketplace; Etc.

2. WHAT TRAITS APPEAR TO MAKE INDIVIDUALS MOST CREATIVE? ARE THESE THE SAME TRAITS THAT LEAD TO SUCCESSFUL INVENTIONS?

An individual's creative ability is a function of their intellectual abilities, knowledge, style of thinking, personality, motivation, and environment. In addition, an individual with only a moderate degree of knowledge of a field might be able to produce more creative solutions than an individual with extensive knowledge of field.

The most creative individuals prefer to think in novel ways of their own choosing and can discriminate between important problem and unimportant ones.

The personality traits deemed most important for creativity include self-efficacy, tolerance for ambiguity, and a willingness to overcome obstacles and take reasonable risks. Intrinsic motivation has also been shown to be very important for creativity.

2. WHAT TRAITS APPEAR TO MAKE INDIVIDUALS MOST CREATIVE? ARE THESE THE SAME TRAITS THAT LEAD TO SUCCESSFUL INVENTIONS?

Innovation is, however, more than the generation of ideas. It is the implementation of those ideas into some new device or process. Evidence suggests that not all inventors are innovators.

In fact many ideas have been left on the drawing board, so to speak, or in the inventors garage. The entrepreneurial skills necessary to convert an idea into a new product or process are very different from the skills and thinking orientation that generated the original idea.

An inventor usually will have a tendency toward introversion (Kindall's case) that may make it difficult for them to convey their ideas to others.

3.COULD FIRMS IDENTIFY PEOPLE WITH GREATER CAPACITY FOR CREATIVITY OR INVENTIVENESS IN THEIR HIRING PROCEDURES?

Individuals can be tested for factors indicative of creativity such as intrinsic motivation, intellectual abilities, knowledge, style of thinking, and personality traits.

Of course these types of tests are no guarantee of performance in the job.

Firms hiring for creative jobs are likely to find their best information comes from an individuals work history especially if that history includes activity that can be characterized as entrepreneurial (this is why firms encourage employees to innovate, as Google's means: 20%time, recognition awards etc) .