

Sample essay on justice

[Business](#), [Industries](#)



Bottom-Up Approach

Bottom-up approach can be defined as a paradigm that approaches a problem by starting with details and working up to the highest conceptual level. Plainly, it is the progression from small units toward a large and more significant unit. In this approach, which differs from the top-down approach, models are created from small components. An example is the development of nano-electronics from the bottom up. According to Lieber and Lu (842) from the University of Michigan, electronics created using the bottom-up approach of molecular-level control of the composition and structure of materials lead to the building of robust and capable devices. Therefore, the bottom-up approach opens many unique opportunities for the industry in America. This approach is also participatory which means that the industry can get in sync with the realities of consumers. For example, nano-electronics offer the opportunity of 3D multifunctional systems such as the 3D food printer showcased in CES.

Critical Infrastructure

The transportation systems sector is a key critical infrastructure that safely, securely and quickly moves goods and people overseas and through the country. The subsectors under this sector include mass transit and passenger rail, aviation, pipeline systems, high infrastructure among others. Another critical infrastructure is the energy sector which includes hydroelectric plants, nuclear reactors and other fuels. Water and wastewater systems are also a critical infrastructure with about 160, 000 public drinking water systems which serve about 84% of the nation's population (DHS 1).

This sector is particularly vulnerable to attacks such as contamination with toxic agents. Commercial facilities are also a critical infrastructure since they have open access by the public. Examples include stadiums, commercial buildings and outdoor events among others. Two examples stand out. One is the September 9/11 attacks on the World Trade center and two is the Boston bombings which happened as the Boston Marathon was being held.

Works Cited

Lieber, Charles M, and Lu, Wei. Nanoelectronics From the Bottom Up. *Nature Materials*, 2007; 6: 841-850.