

Disruption in the lighting market: A policy, market and economic perspective

*“And God said, **Let there be light:** and there was light.
And God saw the light, and it was good; and God divided the light from the darkness.”*
-Genesis 1:3, Bible

Here is an opportunity for you to contribute to an interesting topic: the disruption that recently occurred in the lighting industry. Lighting is an application that constitutes a large bulk of our energy needs. Since the discovery of fire, man has been able to use it to illuminate earlier homes such as caves. This trend continued during medieval times when light lamps were quite common. The discovery of the incandescent (filament) light bulb by Thomas Edison has been one of the greatest discoveries during the industrial age.

However, during the start of the 21st century, the incandescent bulb technology was disrupted by Light emitting diode (LED) (semiconductor technology). This resulted in the end of an era of dominance of industry giants such as Philips Lighting, Osram and GE Lighting. The LED adoption was driven by its promises of being durable, energy efficient and sustainable.

Problem statement:

We would be conducting a case study based research to understand the concept of disruptive innovation. The case used is the disruption caused by LED technology in the lighting industry wherein we will answer the following research questions:

- How did the lighting industry look in terms of policy frameworks, industry structure (value chain and key players), and cost competitiveness, pricing dynamics and innovation landscape before the disruption happened?
- When and during what time frame did the disruption occur?
- What were the main causes/drivers of this disruption?
- How did the industry change during the disruption and if any, what were the after-effects?

Project goals and some tasks that you will carry out or assist me while doing them

- Map the literature in the lighting industry with regards to three aspects: technology, policy and economics
- Analyze market data about companies that got disrupted (For e.g., Philips Lighting (now Signify), Osram (now LEDVANCE), GE Lighting, etc.)
- Conduct and assist in expert interviews from industry stalwarts
- Analyze market data from market research vendors and market research companies.

What support I will provide?

- Provide you resources on literature research that I have collected
- Connect you with industry experts for an expert interview
- Provide support in getting data and insights
- Help you structure you thoughts and articulate complex argumentation and reasoning
- Mentor you by empowering and encouraging you to implement your ideas.

What will you get at the end of your thesis?

- Complete a thesis that has both theoretical and practical implications
- Might be able to network with people in the industry
- Understand the concept of disruptive innovation and dynamics of lighting industry
- Depending on the quality of your work, you might co-author a research paper with me
- You will receive a recommendation for your work and a honest feedback on how you performed on your tasks
- You might get an opportunity to improve your English, in case you want to write your thesis in it.

Who are you?

- A curious and dedicated Master student (m/f/d) studying business studies or industrial engineering
- Possess basic analytical skills
- Know how to use MS Word, PowerPoint and Excel
- Find the above-mentioned topic interesting
- Can write a thesis preferably in English, but writing it in German would also work for me.

Interested or curious about the above-mentioned topic! Please get in touch with me:

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