

# READING CRITICALLY: SQ3R

Critical reading happens when **you engage** with a publication, seeking to comprehend, reflect on, and assess its content. Remember that a text is a communication from its author, expressing their viewpoints and arguments. Try to read objectively, rationally assessing the arguments presented in a work without letting your own bias or personal opinion interfere.

## How to read

The purpose and mechanics of critical reading are different than those of reading for pleasure. Avoid reading texts from beginning to end. Instead, use the critical reading strategy SQ3R (survey, question, read, recall, review).

### Survey

Your goal is to get an quick understanding of the scope of the publication: the main arguments, the evidence used to support them, and the significance of the work. This step should only take 3-5 minutes.

- Look through the introduction and the table of contents.
- Skim through the work, focusing on key elements: chapter titles, headings, sub-headings, figures, and summary sections.

**CHAPTER 5**

**Green services are the unsung heroes**

Torsten Henzelmann and Simon Grünenwald

The manufacturing arm of green business is easily identifiable through its products like renewable energy generation technology, carbon-neutral cars, and more efficient washing machines and electrical appliances. Action can be taken at almost every step of the value chain to enhance environmental performance, and the green service sector is often behind these improvements. The green business service sector is just as important as the manufacturing sector for triggering growth and spurring sustainable innovations. Although working behind the scenes, the green service sector is expanding at a rapid pace. Yet so far it has received scant interest from governments and has not benefited from government's environmental support programs. Given the right attention and backing, the green services sector could create millions of new jobs while helping companies

**But what precisely do we mean by "green services"? In this chapter, we limit "green services" to those provided by the private sector. We do not take into account the myriad government environmental departments and nature protection agencies that are doing outstanding work. Firms in the green services sector serve companies working with green technology. We identify six lead markets: environmentally friendly power generation and storage, energy efficiency, material efficiency, waste management and recycling, sustainable water management, and sustainable mobility. In these lead markets, environmental and economic interests are particularly close.**

Energy consultants advise homeowners on how to optimize their energy consumption, specialist service providers operate and maintain wind farms under contract to groups of investors, and banks advise manufacturers of solar power modules on financing growth, for example. These are just three of the countless business opportunities that green services offer. Each example also shows that a large number of companies operating in the green service sector have their roots in more traditional sectors, or are accustomed to serving different customer groups. Accountants, architects,

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attorneys, and engineers have shifted away from their traditional sectors to focus on green business. These three examples also show that green service suppliers can be classified by their reference levels and by the services they actually offer.

As far as their main reference levels are concerned, green service providers can be classified as being end-customer oriented, largely development oriented, or company oriented. Service providers that focus on end customers have a broad customer base; they do not single out specific groups or industries. A project developer building a wind farm for a private investor is one example. The second reference level category comprises services that are provided to businesses in the green technology sector in relation to specific products, the development of those products, or their production. These services directly target the value chains of manufacturing companies. A service company providing R&D services for a water treatment plant manufacturer is an example of this type of service provider. The third reference level provides services for companies. The services provided by these firms are not limited to any single part of the value chain, but are for entire companies. Banks providing financial advice to companies in the green technology sector are one example of a company-oriented service provider.

In terms of their underlying functions, green service providers can be classified as primary functions, support functions for industry, or support functions for businesses.

Primary function service providers offer their services to lead markets and work independently. Service providers that offer industry support functions assist other businesses in the green technology sector. They tend to focus on manufacturing companies. Service providers that offer business support functions work for other businesses in the green technology sector.

Service category	1 Primary	2 Industry oriented	3 Company oriented
Reference	End-customer oriented	Development, product, Company oriented	or profession oriented
Function	Primary functions of service	Support functions for the industry	Support functions for businesses

Increasing distance to the "core" of the green technology industry →

Figure 5.1 Green services categories  
Source: Roland Berger

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businesses. Second, by providing these sorts of services to customers, they help ensure that energy and resources are used more efficiently across green technology.

Research institutions, specialist engineering and other firms can assist green companies by being commercially oriented products more quickly on the market, by taking on responsibility for certain steps of the innovation process. Whether they provide the calculations for static loads or material stability, develop new chemical products, or other breakthroughs, green service providers often act as the industry's innovation drivers.

Green service providers like banks and insurance firms play an important role in making the industry more professional. They provide financial and other specialized advice that helps green companies stay in business and flourish. Since many of them are highly specialized they can recognize trends and challenges that are arising in the green technology sector before companies do. Some service firms are providing vocational training that enables trainees to become green-collar workers, skilled at making buildings more environmentally friendly.

**Challenges for primary green service providers**

Three factors influence how the business models of primary green service providers will develop in the future: administrative frameworks, cost pressure, and the increasing awareness of sustainability among the general public. This is a highly dynamic sector that makes large demands on its businesses. Government-introduced legal and administrative frameworks drive demand in the primary green services market. Stricter legal requirements promote demand for services by environmental experts and consultants, and sometimes even create demand. Such experts are required to analyze environmentally relevant parameters or to optimize legal frameworks to ensure building limits are met, for instance.

Cost pressure also pushes up demand for primary green service providers. As energy costs considerably burden most businesses, companies are eager to use external consultants to help them become more energy efficient. The market for improving energy spending – whether in business or private households – is likely to grow as the cost of traditional energy increases.

The increasing awareness of environmental issues among the general public is a third driver of growth. It is responsible for the genesis of innovative new business models such as car sharing in the mobility sector, and sustainable tourism in the form of ecotourism holiday packages or

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**Box 5.1 Green services in Germany**

Germany's green services sector was worth €123 billion before the financial crisis. Industry-oriented services accounted for €104 billion, company-oriented services generated €10 billion, and primary green technology services brought up the rear with €9 billion. Comparing these figures with Germany's engineered products sector's sales figures of €206 billion in 2008 shows the importance of the green services sector. The total market for green services in Germany is growing on average by around 7.7 percent annually, which would take it from €123 billion in 2008 to €160 billion in 2020.

Already the green services sector employs around 860,000 people in Germany, or 74 percent of all the jobs in the green technology sector. By 2020, the service sector will employ more than 1.68 million people. The service sector is clearly one of the main drivers of the green technology sector. Green services will prove to be a major source of jobs – and not just for highly qualified graduates and engineers. Although these are instrumental in making the green technology sector innovative, there is also great demand for green-collar workers: technicians, electricians, plumbers, and the like.

Since the service sector requires high levels of expertise, university graduates are very much in demand. At present, engineers account for 30 percent of all those employed in Germany's green services sector, and demand is expected to keep growing in the future. Green service firms also employ large numbers of graduates in law and business studies.

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## Question

Come up with questions to direct your reading. You can form more specific questions as you survey and understand the scope of the work.

- What is this text about?
- How does this reading relate to my assignment?
- Why did the author include these sections but not others?

## Read

- Read only sections of interest, identified during the "survey" stage.
- Read actively, looking for answers to the questions generated during the "question" stage.

## Recite

- Retain information you read by reiterating it in your own words.
- You can reiterate to yourself verbally, or by writing notes.
- Focus on the key points.

## Review

- When you finish reading a source, review your understanding and notes to ensure you captured all the main points.

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