

## THE LIFECYCLE OF GREEN CAPABILITIES: HOW CHAIN AND INDEPENDENT HOTELS DEVELOP THEIR ENVIRONMENTAL PRACTICES IN THE AMAZON REGION

Felipe Fonseca de Araujo - felipe@felipearaujo.com

Sergio Gomes - scgomes03@uol.com.br

Mario Carvalho - mario.santos@unama.br

\* Submissão em: 10/01/2025 | Aceito em: 21/01/2025

### ABSTRACT

This study investigates how independent and chain hotels in the Amazon region develop environmental practices, analyzing these actions as organizational capabilities through the capability life cycle. The main objective is to understand how environmental practices are created, selected, and implemented. A literature review was conducted to explore aspects such as energy efficiency, water conservation, waste management, and environmental education and communication. The methodological approach followed the principles of multiple case studies, focusing on independent and chain hotels in the city of Belém, Pará state. Managers responsible for the development and implementation of practices were interviewed. The results show that chain hotels generally implement standardized practices provided by their headquarters, whereas independent hotels develop more creative solutions tailored to their realities and resources.

**Keywords:** environmental practices, capabilities life cycle, sustainable hospitality

### O CICLO DE VIDA DAS CAPACIDADES VERDES: COMO HOTÉIS DE REDE E INDEPENDENTES DESENVOLVEM SUAS PRÁTICAS AMBIENTAIS NA REGIÃO AMAZÔNICA

### RESUMO

Este estudo investiga como hotéis independentes e de redes na região amazônica desenvolvem práticas ambientais, analisando essas ações como capacidades organizacionais por meio do ciclo de vida das capacidades. O objetivo principal é compreender como as práticas ambientais são criadas, selecionadas e implementadas. Revisão da literatura foi realizada para compreender aspectos como eficiência energética, conservação de água, gestão de resíduos e educação e comunicação ambiental. A abordagem metodológica seguiu os preceitos dos estudos de caso múltiplos de hotéis independentes e de redes na cidade de Belém, estado do Pará. Gerentes responsáveis pelo desenvolvimento e implementação das práticas foram entrevistados. Os resultados evidenciam que hotéis de rede geralmente implementam práticas padronizadas oferecidas pelas matrizes, enquanto os hotéis independentes desenvolvem soluções mais criativas, adaptadas às suas realidades e recursos.

**Palavras Chaves:** práticas ambientais, ciclo de vida das capacidades, hotelaria sustentável

## INTRODUCTION

To address the concern with the environment, organizations started to include environmental practices into their strategies. Hart (1995) was the first author to identify this movement and propose a framework where firms would account for environmental strategies. Some practices, however, are only adopted due to government regulation, and as such are not really part of the organization strategy. To address this, Sharma and Vredenburg (1998) proposed that environmental practices to be considered part of the organization strategy must be taken in a proactive form. These proactive environmental practices form the organization “Proactive Environmental Strategy” (PES). The literature, however, lacks on research regarding how these strategies come about, why some practices are selected and not others.

One way of looking on how these practices are developed is through discussing them as capabilities, which are “abilities to perform a particular productive activity (Jacobies & Winter, 2012: 1365). By using capabilities, we are able to identify how these practices emerge on the organization, and the abilities needed to make them work.

To help understand how environmental practices emerge from capabilities, we will use Helfat and Peteraf (2003) framework of capability life cycle. For the authors, any capability (dynamic or not) can change over time, usually following a cycle similar to one of a product: founding, development and maturity. The majority of research on environmental practices focus on why such practices are implemented (Sharma, 2000; Singh, Jain, & Sharma, 2014), but very little research aims to understand how these practices come about (Bansal, Pratima; Roth, 2000)

The main objective of this paper is to understand how environmental practices are created, selected and implemented. Focusing on the entire process, we can better understand the decision making involved in deciding what ideas will turn into actual environmental practices and why.

The context is the hotel industry. The hotel industry provides a good environment to study the development of environmental practices, especially because they are resource-intensive, leaving behind an ecological foot-print (Bohdanowicz, 2005). Also, using the hotel industry when can add to understanding of the creation process in two ways.

First, there is the element of hotel affiliation. Hotels can be a part of national or international chains, or they can be independent. We believe that this is an important element do to the differences in available resources and the degree of freedom to create and implement management practices (Rahman, Reynolds, & Svaren, 2012). By having different resource and freedom to create, we expect

chain hotels to present a different process of developing environmental practices than independent hotels.

Second, this research allows to better understand how environmental practices are developed in a region that is considered essential for the environment: the Amazon. To our knowledge, no study on hotel environmental practices ever used such environmental iconic region as its focus. Studying environmental practices in a context where the environment is so important can bring new insights regarding the process of how this environmental capabilities are created and if there is any differences with other regions.

## THEORETICAL REFERENCE

### Capabilities and the Environment

The relation between environmental actions and firm performance is stronger when companies are able to develop complex capabilities (ALBERTINI, 2013).

To help understand how environmental practices emerge from capabilities, we will use Helfat and Peteraf (2003) framework of capability life cycle. For the authors, any capability (dynamic or not) can change over time, usually following a cycle similar to one of a product: founding, development and maturity.

The founding stage “begins when a group of individuals organizes around an objective requiring or centrally involving the creation of a capability” (HELFAT; PETERAF, 2003). The authors explain that this stage has two requirements. First, a group of people that are able to work together. Each member of the group will bring some skill and experience to the creation process. Second, a central objective to justify the need of creating a capability. In the case of environmental capabilities, the objective must concern preserving the environment.

This team requires a leader, whose decisions will affect how the capability is developed. Also some external resources to group may be needed, and for that the social capital and external ties of the team members are important to the actual development of capabilities (HELFAT; PETERAF, 2003). Finally, individuals with technical skills and expertise are vital to the process. This heterogeneity of individuals on the group help the capability development.

The development stage starts once the team is organized around the objective. Helfat and Peteraf (2003) argue that the process starts by researching of viable alternatives for capability development. The authors state that the choice of alternatives to pursuit will depend on the configuration of the team. For instance, a team with more individuals that are risk averse will choose

a more established approach, whereas a team with individuals with more mathematical training may choose a more engineering-based solution.

The initial capabilities may be result of observing capabilities of other organizations or developing from scratch. On either case, the capability is improved over time, which Helfar and Peteraf (2003) call “learning-by-doing”, a common concept on organizational learning. As expected, the development process may face difficulties and some attempts may not result on actual capabilities, but the continue effort and learning will eventually lead to the expected results. Eventually, a capability stops evolving and enters the maturity stage, which is the final stage on the cycle.

The maturity stage is related to actual maintenance of capabilities. According to Helfar and Peteraf (2003), capabilities must be exercised to become embedded in the organization memory, thus turning into routine and requiring less conscious thought. A capability to be maintained must be consistently exercised.

### **Hotel Affiliation and Regional Location**

When it comes hotel strategy, one of the first and most important decisions to make is regarding becoming part of a chain or going independent (Carlback, 2008). Staying independent brings the advantage of more control over the business and less agency problems and costs, while entering a chain brings the benefits of the brand and all the managing tools the chain may possess (O'Neill & Carlbäck, 2011)

Many studies discuss this decision based on economic gain to the hotel (O'Neill & Carlbäck, 2011; Ottenbacher, Shaw, & Lockwood, 2006) and the results are mixed (Carvell, Canina, & Sturman, 2015). When it comes do environmental practices, the main focus of the research is considering which practices are most adopted by chain and independent hotels (Bohdanowicz, 2005).

Rahman, Reynalds and Svaren (2012) argue that chain hotels are stronger adopters of green practices, especially concerning saving energy. The authors attribute that result to chain hotels having more resources to make the necessary investments.

What other research have not discussed yet, however, is if there are differences on the development process of green practices between chain and independent hotels. Chain hotels must apply some practices that are in place within the chain, but that does not prohibit them to implement some local specific practices. Independent hotels, in the other hand, have no blueprint to start from and must either benchmark other hotels or develop their own practices from the start.

Another relevant aspect is the location of the hotels in terms of region. The Amazon region, especially its forest, is widely considered a vital environmental resource for the planet (Kawa, 2014), even being called the “lungs” of our planet (Davis & Ellison, 2018). This is relevant to environmental practices because the natural environment appeal of the destination is among one of the most important assets to attract tourists (Bohdanowicz, 2005).

When it comes to comparing environmental practices, however, the research tends to focus on country (Babcicky, 2013) or cultural differences (Calza, Cannavale, & Tutore, 2016; Gallego-Álvarez & Ortas, 2017). Our research will be able to compare how the development process of environmental practices differ to other regions in the world.

## METHODOLOGY

According to Yin (2009, p. 2), case study is the better choice when “how” or “why” questions are being posted, the investigator has little control over the events and when the phenomenon is contemporary. This research fits all criteria, since the main objective is to understand how hotels develop their environmental strategies and why. Also, environmental strategies are a very contemporary theme (ENGERT, RAUTER & BAUMGARTNER, 2016) and one out of the investigator control within the hotel industry.

An important step on using case studies is the defining the unit of analysis (YIN; 2009, P. 32). The unit of analysis must be directly related to the research question. In our case, the unit of analysis are the environmental practices on hotels. Each hotel will represent one case and its environmental practices are our focus. All managers that participate on the development and implementation of environmental practices were invited to participate.

Multiple-case studies are adequate when a phenomena (the unit of analysis) can occur in different forms for each case (YIN; 2009, P. 53). Considering the each hotel may implement different environmental practices, for different reasons and with different results, the multiple-case design is the better choice for this research. Another advantage of using multiple-case studies is that by showing evidence from various sources, it results are considered more robust.

Considering case selection, Yin (2009, P. 54) argues that cases must be selected so they either predict similar results or contrasting results for anticipatable reasons. The cases presented here represent both situations. We expect that the development of environmental practices will be different for hotels that are a part of a chain from hotels that are independent. Chain hotels must consider policies from the chain management, while independent hotels are free do make their own choices.

On the other hand, we expect hotels from chains to present similar development patterns, as the independent hotels among themselves.

The participant hotels were selected in order to better understand the environmental practices cycle in the Amazon region, differentiating between chain and independent hotels. All Hotels were selected from the city of Belém, capital of Pará, located at the eastern portion of the Amazon region. To help intermediate the contact with the Hotels, we approached the local Hotels Association, which provided the contact details for its members. To ensure that Hotels with resources to implement environmental practices were selected, we narrowed our list to larger hotels (Rahman et al., 2012), with at least 150 rooms.

Initially, the goal was to select two chain hotels and two independent hotels, interviewing at least two managers from each. The first chain hotel contacted, however, only provided one manager with autonomy to implement environmental practices. A third hotel of similar characteristics was added to the sample to complement the minimum number of managers established.

Table 1: Cases Selected

Hotel	Hotel Inauguration	Hotel Size	Number of Employees	Managers Interviewed
Independent 1	1972	216	Not Disclosed	2
Independent 2	1984	361	Not Disclosed	5
Chain 1	2006	174	111	2
Chain 2	2010	258	34	1
Chain 3	2012	405	77	1

Source: The Author

The interviews with hotel managers were conducted in a period of 14 days. All interviews followed the same protocol. Yin (2009, P. 79) states the importance of this step, as “the protocol is a major way to increase the reliability of the case study research”. More than the instrument, the protocol also contains the procedures and general rules for the data collection.

## RESULTS

### The Founding Stage - Practices Creation

The founding stage is about the group of people involved in the creation of a capability and the objective that capability aims to address. We cover this topic by asking how new environmental practices are created on the hotel and to what purpose. There is a big difference on developing environmental practices between chain hotels and independent ones.



For independent hotels, the owners and their employees are basically the sources of environmental strategies. Although all interviewed managers stated that they are open to employee suggestion regarding any improvement on the hotel operations, for independent hotels the actual use of such suggestions is much higher. The manager of an independent hotel gave the following example.

*“The idea I told you about, to give one cup for each employee and save on plastic cups, it was proposed by one employee through the suggestion box.”*

Suggestion box is one of the many communication channels used to gather ideas. The most frequent still is personal communication with the management. One hotel went further to stimulate participation and created a point system to reward the employee for their ideas that were adopted. All ideas are evaluated periodically by a committee, and the approved ones resulted in points for the employee that proposed it. After reaching a certain amount of points, that employee would receive a money prize.

For chain hotels, in addition to employee participation, the chain management provide environmental programs that serve as a blueprint to what can be done. These programs specify all practices that are commonly adopted on other hotels on same chain. Such programs, however, were present on luxury hotels but not on the budget ones. This is not surprising considering that budget hotels focus primarily on cost, while luxury hotels are concerned with the guest experience. We can expect guests from luxury hotels to consider environmental practices as more relevant than clients for budget hotels.

For both, independent and chain hotels, the main reason to explore new environmental friendly practices is cost reduction. All managers discussed how the competition has increased in recent years and the need to reduce costs has forced them to adopt new practices. Any suggested practice that involved in cost increment is hardly adopted.

One difference appeared between hotels, but not regarding chain x independent. Some hotels were managed by their owner (family business) while others hired professional managers. The family business model allowed more freedom to develop environmental practices. This happens because the owner can absorb the financial cost if he believes that the practice is truly relevant. Professionally managed hotels, on the other hand, are more concerned with presenting the owners with financial gain. Professional managers are less interested on environmental practices that do not involve cost reductions.

Some environmental practices could be implement even with increase in costs, if the guests considered those practices important enough to influence their hotel choice. A common point on both

chain and independent hotels, however, is the apparent lack of interest by guests regarding environmental practices.

This lack of interest may be the result of how the majority of guests on the city are on business trips. All managers stated that between 80% to 90% of their guests indicate they come to the city for business reasons.

One manager went even further to state the reuse of towel program had a negative effect and had to be cancelled. By explaining that the reuse of towels would benefit the environment and specifying that towels should be left on the floor to be changed, the number of towels changed daily increased. Prior to the program, guests were not informed on how to proceed if they wanted their towel changed, so many did not leave the towels on the floor. The interviewed manager said this outcome was surprising and further cemented the concept that guests are more preoccupied with their comfort than with the environment.

### **The Development Stage - Practices Implementation**

For the hotels that are, or were, members of a chain, there are two main perspectives regarding the implementation of green practices. The first is the suggestion of practices, while the second is the contract demand that those practices be implemented. When it comes to suggestion, one manager stated that the hotel would deliver a lot of written material about practices on their chain, while also providing courses and seminars if interested. There is no requirement to follow and suggestion.

The second situation present on chain hotels is a mandatory implementation of environmental practices. In this case, the hotel not only provides the material and training, but it also enforces the employment of those practices. This is done on-line with the hotel manager being asked to fill a check-list with the results for each practice. For instance, the amount of water used and waste generated must be indicated periodically. All results must fall within the specified parameters given by the hotel chain.

In the case of independent hotels, the process is much simpler. Once the idea of a specific practice is approved, the management will define a budget for implementation. The speed with each practice will be implemented depends on the availability of resources. As discussed earlier, environmental practices that can reduce costs are considered a priority and will be implemented first.

One barrier that was presented by some managers is the age of the hotel building. The average of years for the buildings was 13 year. The oldest was 32 while the newest just 6 months. The managers for the older buildings stated that by their construction, environmental conservation was



not an important issue. Some more recent practices concerning water conservation and energy efficiency, like installing solar panels or improving the water system, are harder and more costly to implement. On this matter, the newer buildings are able to gain more efficiency by designing their installation with environmental concern in mind.

### Maturity Stage - Environmental Practices

We present on table 1 the practices reported by the managers. Our results regarding environmental practices for hotels on the Amazon region are very similar to what was found on other studies (HSIEH, 2012; JACKSON, 2010; KASLIWAL & AGARWAL, 2015; KIM et al, 2011).

Table 2: Categories and Environmental Practices

Category	Environmental Practice Chain	Environmental Practices Indep
Energy Efficiency	Keycards to power room Solar Energy Energy Saving Program	Solar Energy Clean energy purchase Use of appliances with energy efficiency Energy saving light bulbs Natural light on the hallway
Water Conservation	Towel and line reuseage Water reducing program	Towel and line reuseage Water pressure reduction
Waste Management	Avoid using disposable items Solid waste management program	Waste separation Oil recycles and reuseage Reuseage of soaps to wash floor cloth Solid waste management program
Environmental Education and Communication	Environmental education for employees to avoid waste Environmental education for customers	Environmental education for employees to avoid waste

Source: The Author

With regards to the actual practices implemented, the results support the main differences between chain and independent hotels. Chain hotels tend to implement “packaged” practices that are given by the chains. Chain hotel manages described their practices in terms of programs (Waste, Energy and Water programs). There was no motivation to go beyond what is required by the chains. Considering that the programs provided by the chain hotels are already in use in other hotels of the same chain, through trial and error such programs are expected to be more efficient and easier to implement.

Independent hotels do not have the luxury of learning from corporate experience, so they must develop their own practices based on their management capabilities. Some practices presented by

independent hotels like “resuage of soaps to wash floor cloth” and “natural light on the hallway” show their less standardized view of environmental practices and more creativity to be green with less resources.

When put together, the results from all hotels in the Amazon region we can compare their practices to the rest of the world. All practices can be grouped into four categories: Energy Efficiency, water conservation, waste management and environmental education and communication. Unfortunately, the practices presented on this study are less inclusive than of similar studies over the world. Practices related to indoor environment (Hsieh, 2012; Kim, Chang, Lee, & Huh, 2011; Teng, Horng, Hu, Chien, & Shen, 2012; Yi, Li, & Jai, 2016) and green purchase and supply chain (Berezan, Millar, & Raab, 2014; Hsiao, Chuang, Kuo, & Yu, 2014; Hsieh, 2012; Kasliwal & Srishti Agarwal, 2015) were not discussed by managers in the amazon region.

The lack of environmental practices related to green supply chain may just be a reflection of a broader local problem. Two hotel managers complained about how hard is to find suppliers in an overall way. The Amazon region, due to its distance to the main industrial areas, has known logistic problems. This problem, however, should represent an opportunity to local firms to offer green products to hotels. Unfortunately, this opportunity has yet to turn into real business. Regarding the lack of practices directed to indoor environment, we have no possible explanation for this.

## CONCLUSION

This paper aimed to address the question on why and how environmental practices are developed on the hotel industry. In terms of theoretical contributions, we applied the capabilities life cycle proposed by Helfer and Peteraf (2003). The model proved to be a relevant framework when discussing how environmental capabilities are developed by organizations. The three phases were clearly identified on the manager’s answers. Some ideas don’t go beyond the founding stage, while others are discussed more in depth and approved by management. Those practices that are successfully implement by the organization then enter the maturing stare, where improvements are constant until that capability may be replaced by an entirely new one.

Concerning the differences between chain and independent hotels, our results support prior research. Independent hotels have managers with more freedom do implement environmental practices more based on their own values and perceptions, while chain hotels have their practices developed at the corporate level (Rahman, Reynalds & Svaren, 2012).

Another theoretical contribution regards environmental practices is the creation of four categories to group such practices: Energy efficiency, water conservation, waste management and environmental communication and education. Most authors (BEREZEN, 2013; TENG et al, 2012; KASLIWAL & AGARWAL, 2015) just list the practices, but considering that a lot of them are similar, grouping them together helps in terms of creating a more concise framework for environmental practices.

We can also draw some managerial insights. First, there many opportunities for management to implement environmental practices that can result on financial gains. The most common ones are related to cost reductions, like towel reuse, changing for more economical light bulbs, and recycling the waste. Although some investments may be required on the implementation, the savings gained over time justify the costs. Second, the participation of employees on the founding stage is very important. Employees have direct contact with all parts of the operation and are capable of providing valuable insights. Proper channels of communication will benefit this process of idea generation by employees.

For future research, the natural next step is to apply a more quantitative approach to measure the benefits of environmental practices in terms of consumer preference. This paper made clear about the cost gain, but what about the effect of environmental practices on consumer choice? Although the management interviewed for this research believe that the consumers don't really care, the actual measurement of their.

## REFERENCES

- Berezan, O., Raab, C., Yoo, M., & Love, C. 2013. Sustainable hotel practices and nationality: The impact on guest satisfaction and guest intention to return. *International Journal of Hospitality Management*, 34(1): 227–233.
- Hart, S. L. 1995. A Natural-Resource-Based View of the Firm. *The Academy of Management Review*, 20(4): 986–1014.
- Helfat, C. E., & Peteraf, M. A. 2003. The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10 SPEC ISS.): 997–1010.
- Hsiao, T. Y., Chuang, C. M., Kuo, N. W., & Yu, S. M. F. 2014. Establishing attributes of an environmental management system for green hotel evaluation. *International Journal of Hospitality Management*, 36: 197–208.
- Hsieh, Y.-C.. 2012. Hotel companies' environmental policies and practices: a content analysis of their web pages. *International Journal of Contemporary Hospitality Management*, 24(1): 97–121.

- Jackson, L. a. 2010. Toward a framework for the components of green lodging. *Journal of Retail & Leisure Property*, 9(3): 211 – 230.
- Jacobides, M. G., & Winter, S. G. 2012. Capabilities : Structure , Agency , and Evolution. *Organization Science*, 23: 1365–1381.
- Kasliwal, N., & Agarwal, S. 2015. An Exploratory Study on Women ' s Perception and Choice of Preference towards the Green Attributes of Hotel Industry. *International Journal of Engineering Technology*, 3(March): 304–312.
- Kim, H., Chang, H., Lee, J.-W., & Huh, C. 2011. Exploring Gender Differences on Generation Y's Attitudes towards Green Practices in a Hotel. *Graduate Student Research Conference in Hospitality and Tourism*.
- Millar, M., Mayer, K. J., & Baloglu, S. 2012. Importance of Green Hotel Attributes to Business and Leisure Travelers. *Journal of Hospitality Marketing & Management*, 21(4), 395–413.
- Sharma, S., & Vredenburg, H. 1998. Proactive corporate environmental strategy and the development of competitively valuable... *Strategic Management Journal*, 19(8): 729.
- Teng, C. C., Horng, J. S., Hu, M. L. M., Chien, L. H., & Shen, Y. C. 2012. Developing energy conservation and carbon reduction indicators for the hotel industry in Taiwan. *International Journal of Hospitality Management*, 31(1): 199–208.
- Yin, R. K. 2009. *Case Study Research: Design & Methods*. Thousand Oaks: Sage.