9 Tourism as a Complex System

By the end of the chapter, the reader will be able to:

- Describe why existing lifecycle models are deficient
- Appreciate that tourism, by its very nature, is inherently volatile
- Explain how and why tourism functions in a nonlinear manner
- Explain the key features of a complex system.

Introduction

The last chapter examined Butler's and Plog's lifecycle models. They suggest that tourism works as a linear, predictable manner, moving logically through a pre-determined lifecycle. While the speed of change may be variable, progression through the stages up to and possibly including decline seems inevitable. These models and the models identified earlier in this book share a number of features in common. They recognize that any tourism system begins with the tourist and that also any system needs some destination features and a linkage between the tourist and the destination. The models all have a number of advantages helping us to understand the constituent parts of tourism and some of the simple linkages between elements. They are also deficient in a number of areas, though, for they do not work in practice. This chapter takes an alternative view to the organization and evolution of tourism by looking at tourism from the perspective of complexity theory. In the last 20 years, complexity theory has made strong inroads into management disciplines, but has only recently gained limited interest in the tourism sector, notably from Rodolfo Baggio (Baggio, 2008; Scott, Baggio and Cooper, 2008; Sainaghi and Baggio, 2017).

Existing tourism models

The idea of examining tourism from the perspective of complexity theory was mooted first by Faulkner and Russell (1997, 1998) and McKercher (1999) who questioned the utility of existing models to explain how destinations change over time. They argued that most models proposed a reductionist approach to tourism, where one could understand how it worked by disaggregating it into its component parts, identifying the relationships between parts and then re-aggregating it. Such models make it easy to study tourism's components, but do not necessarily explain how tourism works. Moreover, they tend to be written from the perspective of an overarching public sector tourism organization with the implicit understanding that somehow tourism can be controlled from above by planners, as the World Tourism Organisation asserted 25 years ago (WTO 1994) and continues to assert.

And yet, they do not explain why it is so hard to control the genie of tourism once the development process starts and why, as Pearce (1989) stated, spontaneous, catalytic and extensive development are the most common types of development observed, especially in emerging economies. It also does not explain why, after almost 50 years of concern about and research into the social, cultural and environmental impacts of tourism, overtourism continues to remain a vexing problem today. If, indeed, tourism can be controlled, then one would have expected these issues could has been resolved a long time ago.

■ Why existing models do not work

Why do existing models not work? Models represent simplified versions of reality in order to help make sense of complicated ideas. By design, they are selective as to which elements they include and therefore which they exclude. They tend to focus narrowly on selected destination variables and argue that simple cause and effect relationships exist between these variables. As a result, most of the models cannot appreciate the independent, yet complex interrelationships that exist between and among the multitude of players involved in tourism, where any tourism business must both coexist with and compete fiercely against other businesses to survive.

The models further fail to reflect the dynamic nature of tourism, where hundreds or thousands of businesses, depending on the size of the destination, enter into and exit the marketplace, change ownership or reposition themselves radically each year. And so instead of representing a stable, closed system, the tourism system can be seen as an open system subject to constant dynamic interactions with a whole series of internal and external agents (McDonald, 2009; Brouder and Eriksson, 2013). As a result, a degree of instability is both inherent and essential.

From time to time apparently stable systems are thrown into a period of tremendous instability (Farrell and Twining-Ward, 2004) that rattle them to their core only to re-emerge in a different shape, stronger and more resilient. These perturbations can be caused by external factors such as COVID-19, war, terrorism or natural disaster; internal events involving new developments or financial failure of key players; or by technological innovation affecting transportation linkages in the tourism distribution system. Let's not forget how fickle tourists are as well, as they tend to overreact positively to the latest fad or negatively to bad news.

Instead, most models focus on the stability of systems, or their orderly linear change. They are predicated on predictability and central tendencies and the threat posed by outliers. Yet, outliers are often precursors of change. The models, thus, cannot accommodate the ongoing turbulence that is inherent even in mature, stable tourism communities. Nor can they explain the apparent organic resilience seen in many systems (Baggio, 2008; Cochrane, 2010).

In short, at their heart, the models do not appreciate that tourism operates in a non-linear manner that is akin more to a living ecosystem than to a machine (McKercher, 1999), with a clearly defined a hierarchy of dominant and subservient players and clear inter-relationships between entities. All other tourism activity revolves around these features, including the demand for accommodation, secondary attractions, amenities, services, shopping, other activities, improved access, and the interest in the travel trade to bring tourists to the area. Farrell and Twining-Ward (2004: 277) are more blunt when they state "the central problem is that tourism researchers schooled in a tradition of linear, specialized, predictable, deterministic, cause-and-effect science, are working in an area of study that is largely nonlinear, integrative, generally unpredictable, qualitative, and characterized by causes giving rise to multiple outcomes, quite out of proportion to initial input."

A new approach – complexity

Traditional scientific thought, or the Cartesian-Newtonian approach, views systems as machines (Faulkner and Russell, 1997). To understand how a machine works, all you have to do is break it into its component parts, understand how each part works and how they fit together. Moreover, any machine should work in a predictable manner, where a certain input produces the same output time and time again. Faulkner and Russell (1997, 1998) highlight some other features of the Cartesian-Newtonian approach. To begin, it is assumed that the failure to understand how a system works is due to lack of information and if enough information can be gathered, then any system can be understood fully. Systems