

A CONCEPTUAL AND DYNAMIC APPROACH TO INNOVATION IN TOURISM

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Abstract

The importance of innovation was long underestimated in service activities. In contrast to the radical innovations vital to growth in manufacturing sectors, innovations in services and tourism were secondary and capital-scarce, and for this reason they were excluded from the scope of government interest and action. It is interesting to note that the discourse changed with the emergence of new information and communication technologies (NICT), which have been especially influential in the realm of tourism. The dissemination of new modes of production and the resulting organisational shock waves, along with the marketing adjustments this has entailed, have been the subject of much research. Yet the issues involved in innovation in tourism are not confined to the information revolution, and many other questions remain.

Methodology

This contribution presents a portion of a report (2002-2003) to the National Tourism Board on *Tourisme et innovation : bilan et perspectives* ("Tourism and Innovation: Assessment and Outlook"). Our method has been to:

- Examine statements made during interviews with tourism industry leaders in the light of recent findings of theoretical work on innovation in services.
- Assume a context of complexity: tourism products are composite goods.
- Take an approach that is comparative (on the industry level) and multidisciplinary (on the academic level).
- Take a systemic approach: tourism's territorial grounding and government intervention are core considerations.
- Avoid common-sense pitfalls: avoid such "myths" as the innate unproductiveness of service activities, inability to innovate ("Can one imagine a hotel-restaurant performing research?"), low capital-intensity, inability to generate substantial productivity gains and the low quality of jobs offered by the tourism industry.

Defining innovation

Innovation can be defined in a multiplicity of ways. The leading theoretician of innovation, Joseph Schumpeter (1883-1950), already had a broad vision of the concept, encompassing new

products, new production processes, new markets, new raw materials and new forms of organisation. For Schumpeter, the common thread between all these changes is that they involve “carrying out new combinations” which are qualitatively important and introduced by dynamic business leaders, or “entrepreneurs”. The definition generally accepted today does not necessarily entail a major change linked to a particular individual.

Today, it is necessary to take account of the uncertain (risky) nature of the process, and of the need for innovation to lead to the creation of value that in the final analysis is judged by consumers.

“...a process of creating new value ... geared first towards customers, as the main arbiters of business competitiveness, but one that can also involve other stakeholders as major beneficiaries, such as the organisation itself (employees), shareholders (profitability), external partners, etc.”¹

Newness does not necessarily suggest creation ex nihilo

Innovation differs from creativity. Creativity refers to the production of new ideas, new approaches and inventions, whereas innovation corresponds to the application of new and creative ideas and the *implementation* of inventions. From this it follows that people and organisations may be creators without being innovators.

Innovation represents the sum total of a joint, social process (and not the result), at the culmination of which an invention is either used or not used. Inventions must be appropriated by user-adopters, which explains why the time lag is sometimes long between invention and innovation. It may involve only marginal changes. Should something be considered innovative if it is new at the level of a country, a market or even a firm? There would not seem to be a commonly accepted notion, and in particular not in the programmes of the various European States: innovation is indeed a “chaotic concept”!

Newness does necessarily suggest the idea of progress (technical, economic or social)

Innovation imposes discontinuity—Schumpeter’s “creative destruction” – which, while making users of the new product or process more satisfied and the firms using it more efficient, makes existing products or production methods obsolete. It therefore creates victims or, at the very least, readily appears as a threat to certain interests. The advent of superstores triggered the decline of small shops, and the development of new information and communication technologies is disrupting the world of tourism distribution. Apart from the impact on competitors, it is also necessary to factor in the spillovers for territories from innovation in tourism, and not everything new in this area necessarily advances the cause of sustainable tourism development!

Newness does necessarily suggest the idea of success

An innovator’s behaviour cannot be likened to that of a manager who, according to traditional economic theory, is supposed to optimise current operations. Risk is a central element for an innovator, and this risk increases with uncertainty and as innovation becomes more radical. Edifying examples of successful innovations must not be “the tree that hides the forest”. While the risk inherent in innovation inhibits innovation, the risk of *not* innovating (*i.e.* of falling technologically or sociologically behind, of losing ground to the most innovative competitors, of falling into inertia) often gives rise to excessively risky decisions that will end in failure.

1. [Translated from] Jean-Paul Flipo (2001), *Innovation dans les activités de service*, Éditions d’Organisation.

Here, let us cite Bernard Bellon: “Nine out of ten innovations are never completed, 99 out of 100 innovations serve no purpose. There remains one that is worth trying for all the others”.²

Identifying innovation in tourism as innovation in services

Innovation in tourism services: what are the unique features?

Identifying the nature of innovation in tourism entails looking for features that are either shared with or distinct from those of innovations in other service industries, but it also entails comparisons with the more general models found in manufacturing. In addition, issues arising in agriculture may shed some light as well.

- Comparisons of the approach to innovation in tourism and in other service industries: retailing, banking, recreation, etc.

Tourism products are “experience goods” *par excellence*, validated *ex post facto* by consumers, who commit their experience to memory and build upon it. This feature seems consistent with the trend towards “customisation”—i.e., “mass production of the made-to-measure”³. In addition, tourism activity is deeply rooted spatially, the stage being set by the surrounding heritage, attractions and lodging facilities. Consumption also has a sequential dimension that affects the quality of the tourist’s overall experience. As a result, reference to the model for retailing can shed light on the manner in which tourism products are distributed and consumed. The tourism industry also involves activities that feature proximity to leisure industries: cultural, sporting and recreational pursuits. Since both are affected by industrialisation approaches, the development of short-term practices, the influence of innovations in urban tourism on the supply of leisure activities (casinos, museums, special events, etc.) accentuate the convergence to the point where it becomes difficult to establish a clear boundary between them.

- Unique features of services as compared to industrial models: marketing of services, the role of R&D, lack of patentability, attitude towards markets (tendency towards responsiveness), low degree of technology culture, etc. Services cannot be analysed exactly with the same analytical categories as are used to understand innovation in manufacturing industries. Taking an evolutionist approach, the taxonomy of Keith Pavitt classifies service firms, and especially those performing services for individuals, as “supplier-dominated”, being essentially users of technologies developed in the realm of manufacturing. The emphasis is on non-technological forms of innovation, such as professional know-how, brands and design, which then play a major role.
- Non-unique features: a blurry boundary between industry and services: the industrialisation of tourist services and the shock of NICT are making tourism more innovative. Services are becoming more active in innovation by adopting NICT, as highlighted by the preponderance of tourism services in the development of electronic commerce.
- Classifications of innovations in tourism.

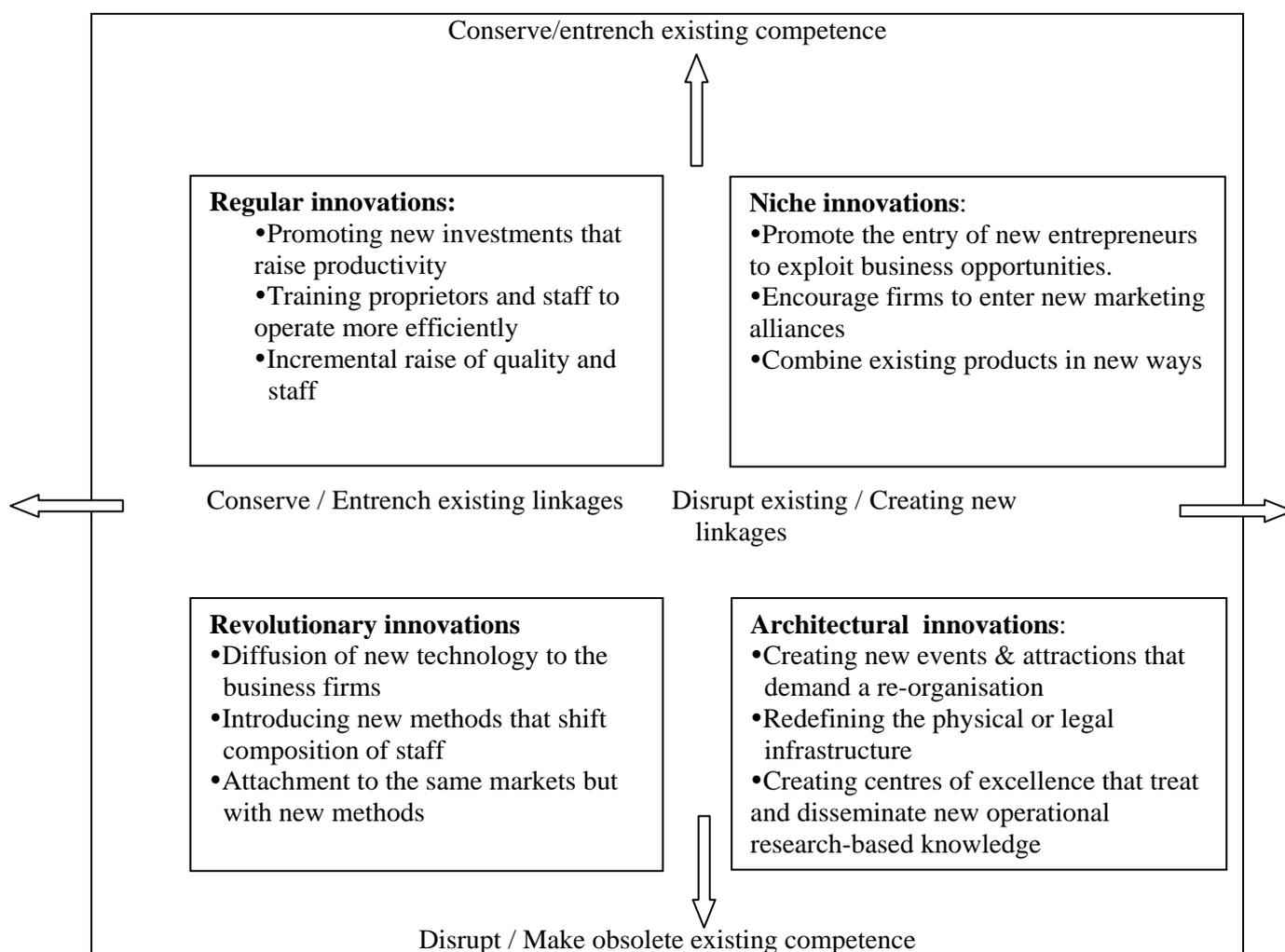
2. [Translated from] Bernard Bellon (2002), *L’Innovation créatrice*, Economica.

3. See Albert Bressand *et alia* (1988), “Les services au cœur de l’économie relationnelle” in *Revue d’économie industrielle*, No. 43.

- Technological and non-technological innovations.
- Classification according to the nature of the innovation: product or process innovation, organisational or market innovation, or “ad hoc” innovation.
- Innovation and intensity of discontinuity: radical, incremental or architectural innovation.

Based on the Schumpeterian idea of “creative destruction”, the Abernathy-Clark model classifies innovations in two dimensions: intensity of obsolescence of knowledge subsequent to an innovation, and intensity of changes in industrial linkages prompted by the innovations. The application to the tourism industry is attributable to Anne-Mette Hjalager (2002)⁴. It is noteworthy that certain concepts do not have the same meaning for all authors, reflecting the fact that research in this field is not yet mature.

Figure 1. The Abernathy and Clark Model



4. Anne-Mette Hjalager (2002), “Repairing Innovation Defectiveness in Tourism” in *Tourism Management*, No. 23, pp. 465ff.

Source: Hjalager, 2002

Synthetic approach

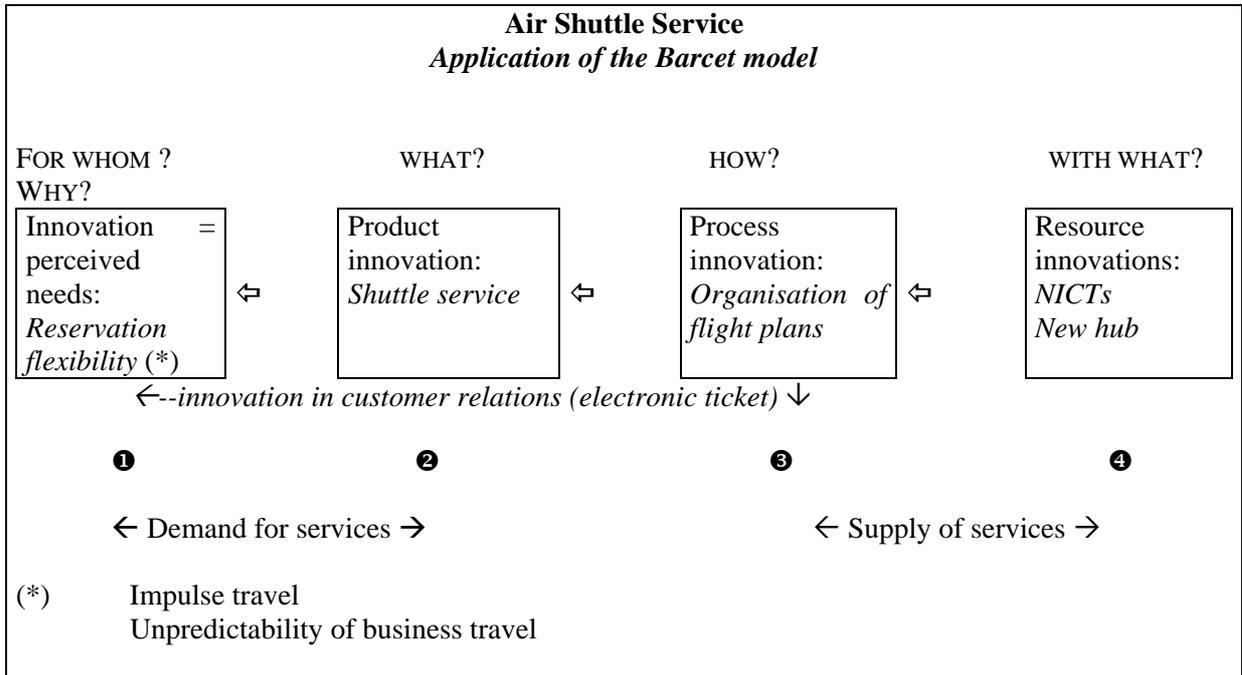
The Barcet model⁵ reflects a more synthetic vision of innovation. The author’s model divides the sequential process (co-production) linking a customer and a service provider into four levels, from customer expectations to the means and resources deployed by the provider. This may be summarised roughly as follows:

Layers 1 and 2 represent the demand for service: innovation in the customer’s system (beyond the providers’ reach) and “product-service” innovation, the emphasis being on the customer’s expectations of results.

Layers 3 and 4 are the supply of services: Process innovation that is either internal or intended to alter the customer/service provider relationship, and innovations in means or resources, generally intended to rationalise internal operating conditions or to position a given service more strategically within total supply.

Zone 2, which is the overlap between supply and demand, constitutes the core of the construction of innovation.

The set of innovations instituted around a new air service such as Air France’s shuttles can be represented as follows:



5. André Barcet (1996), *Fondements culturels et organisationnels de l'innovation dans les services*, CEDES-CNRS.

The dynamic of innovation in tourism: Which models?

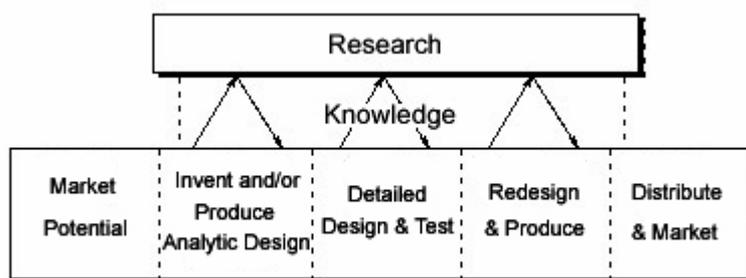
The dynamic of innovation in tourism can also be interpreted using the innovation modelling efforts found in economic literature and management sciences. Modelling expresses a certain approach to innovation, the forms in which it evolves and the forces driving that change in a formal, simplified way. With no pretensions of being exhaustive, one could cite:

Linear models

Fundamental → research	Applied → research	Technological → development	Development of → products/processes	Production →	Marketing
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The (regular) linear perception of the dynamic of innovation is the oldest. It is the one that underlies Schumpeter's work. It proceeds directly from the invention to the marketing of the invention. This vision is consistent with a perception of progress (technical, economic and human) that is direct and irreversible. For tourism, it can be used to understand the approaches taken to the dissemination of technological innovations imported from other sectors, such as NICTs.

Chain-linked models



Source: Kline, Steven J. and Nathan Rosenberg, "An Overview of Innovation" in *The Positive Sum Strategy: Harnessing Technology for Economic Growth*, under the direction of Ralph Landau and Nathan Rosenberg, National Academic Press, Washington, DC, 1986, p. 289.

Here, there is no more one-way causality. These models show, first, that innovation appears as a "coupling phenomenon" between technique and market (Freeman, 1974) which operates in an interactive mode (Mowery and Rosenberg, 1979). Second, this research shows that it is the progressive nature of innovation activities that dominates (Rosenberg, 1976). Demand-pull innovations, driven by new demand expressing new needs, thus get better coverage here. We have already stressed the importance of these coupling phenomena in the transformations currently underway in the realm of tourism.

Logistic models: life cycle

- Product cycle and cycle of dissemination of new tourism products:

Reference to the product life cycle theory also enables the various phases in the dissemination cycle of new tourism products to be presented in a summary manner, along with their properties and a characterisation of the various segments of tourist-

industry supply.⁶ As a rule, this dissemination does in fact follow a logistic curve marked by three phases:

Incubation: small number of innovative firms; demand still virtual; innovators' rents.

Take-off: Extension of the market and the number of firms; possibilities for imitation and difficulty effectively protecting the innovator's intellectual property rights. As the market becomes more structured, segmentation, differentiation and branding strategies develop.

At the end of the cycle, *saturation* expresses the limits of the market and the banalisation of the product; price competition and concentration movements.

This modelling can also be used to specify the technical and economic "age" of such forms of tourism as rural, industrial and spatial tourism, etc. In addition, it is close to analyses of the life cycle of tourism destinations that take the approach of Butler (1980).

- The reverse cycle of Richard Barras: Adoption of NICTs by tourism distribution:

The impact of new technologies on services is a particular focus of the reverse cycle model of Richard Barras.⁷ The adoption of NICTs by service activities can be understood from a cyclical standpoint:⁸ at first, there is incremental process innovation intended to enhance the efficiency of a service by substituting capital for labour (*e.g.* automation of the back offices of tourism operators), and then, an accumulation of knowledge and IT progress enabling radical process innovations improving the quality of service (including front-office operations such as changes in reservations). Today, we would appear to have come to the third phase of the cycle, characterised by product innovations, the role played by network technologies and the domination of product differentiation strategies by firms in the sector.

Period	Nature of the innovation	Objective	Means	Example
1 ▼	Incremental process innovation	Productivity gains	Substitution of capital for labour <i>Agencies acquire IT equipment</i>	Back office automation
2 ▼	Radical process innovation	Improve service quality	Accumulation of competencies (IT)	Front office operations: reservations
3	Product innovation	Product differentiation	Network technologies	New on-line products: auctions, "last minute"

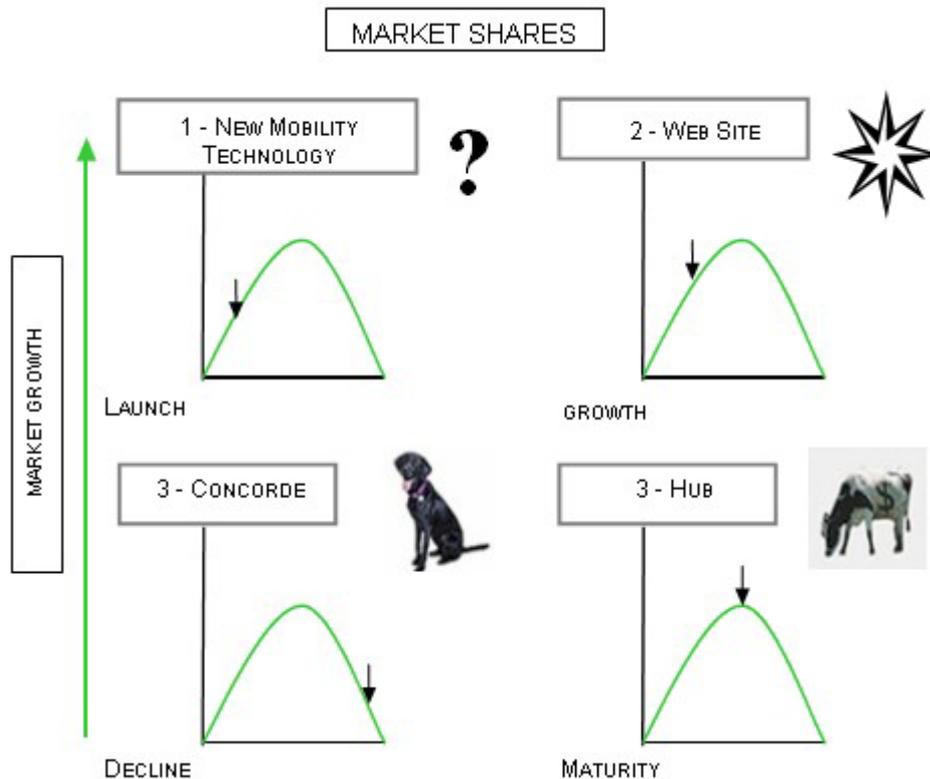
6. See Jean-Louis Caccamo and Bernardin Solonandrasana (2001), *L'innovation dans l'industrie touristique, enjeux et stratégies*, L'Harmattan, pp. 89ff.

7. Richard Barras (1986), "Towards a Theory of Innovation in Services" in *Research Policy*, No. 19.

8. This is a cycle that is reversed in relation to the traditional view which postulates, initially, a radical (product or process) innovation that then generates incremental innovations.

- Technological innovations, life cycles and competitive advantages – matrix of Air France strategies:

Company strategies can try to utilise their portfolio of competencies by combining their own positioning⁹ on the innovative product market (via a BCG matrix) and the life cycle of innovation. Given the latter's influence on competitive impact, it can highlight appropriate strategies.



9. In a knowledge-based economy, this can incorporate recognition of accumulated competencies. See Pascal Tremblay (1998), "Le nouvel âge du tourisme stratégique", *Téoros*, Autumn, pp. 11-17.

Interpretation:

Technological innovations	Strategies
<p><i>NEW MOBILITY TECHNOLOGY:</i> <i>“QUESTION MARK” TECHNOLOGICAL INNOVATIONS</i></p> <p>Cutting-edge technological innovation at the research (launch) phase or being tried out by other industries, having uncertain but promising differentiation potential.</p>	<p>➔ Invest cautiously if the technology meets the needs of Air France’s customers. Develop partnerships with the new technology industry.</p>
<p><i>WEB SITE AND DERIVATIVE PRODUCTS:</i> <i>“STAR” TECHNOLOGICAL INNOVATIONS</i></p> <p>Cutting-edge technological innovation being tested (growth); potential for differentiation is great and will impact the company’s future.</p>	<p>➔ Step up penetration efforts: Air France site, Opodo site, Skyteam.</p>
<p><i>HUB:</i> <i>“CASH COW” TECHNOLOGICAL INNOVATIONS</i></p> <p>Key technological innovation being operated or in the maturity phase; strong competitive impact.</p>	<p>➔ Develop the hub at Roissy-Charles de Gaulle Airport, captive clientele (barriers to entry), international presence and consolidation of competitive advantages over other carriers and high-speed trains (TGVs).</p>
<p><i>CONCORDE</i> <i>“DOG” TECHNOLOGICAL INNOVATIONS</i></p> <p>Basic technological innovation exploited extensively by the company and its competitors (decline phase); low competitive impact.</p>	<p>➔ Keep Concorde because of the image associated with the company in terms of prestige and refinement or cease operations (the decision taken ultimately).</p>

Structural approach: the framework for innovation in tourism

From traditional tourism to “new tourism”: a regulationist approach

	Heteronomy	Autonomy
Provision of simple services	<p>Fordist tourism</p> <ul style="list-style-type: none"> • Evaluation of quality: price • Form of uncertainty: quantifiable risk • Competition: price-based <p><i>Stays in clubs, organised tours</i></p>	<p>Simple tourism</p> <ul style="list-style-type: none"> • Evaluation of quality: conviviality and relationships • Form of uncertainty: of little importance • Competition: on prices and proposed attractions <p><i>Camping, family tourism, seaside holidays, rural tourism, etc.</i></p>
Provision of complex services	<p>Organised, customised tourism</p> <ul style="list-style-type: none"> • Evaluation of quality: satisfaction of individual expectations, importance of service • Form of uncertainty: uncertainty vis-à-vis others • Competition: quality-based <p><i>Luxury cruises, sophisticated organised travel (high-end sporting stays).</i></p>	<p>Self-organised customised tourism</p> <ul style="list-style-type: none"> • Form of uncertainty: radical • Competition: On the basis of prices and originality of activities <p><i>Backpacking in off-beat locations</i></p>

For industry operators, to what extent does the emergence of “new tourism” entail a shift in learning strategy to one geared more towards exploiting knowledge of demand from one of controlling productivity?¹⁰ Is not innovation in tourism based more on an objective of product differentiation¹¹ (non-price differentiation) than on price competitiveness? Today one finds a multiplicity of models of tourism practices, superimposed on each other with no one model standing out as the one to follow. In offering their products, firms must adapt to the protean nature of demand for tourism.

10. Pascal Tremblay (1998), “*Le nouvel âge du tourisme stratégique*”, *Téoros*, Autumn, pp. 11-17.

11. The personalisation of service may even be taken so far as to provide regular customers with special treatment based on an information system for tracking and analysing their behaviour and preferences, such as at the Ritz-Carlton.

The tourism cluster: “co-opetition”, social capital and externalities

Taking an approach like that of Michael E. Porter, we can look at clusters as a grouping of all of the firms and other elements that help make a region competitive, including the industries cited above, education and training facilities and infrastructure. In the realm of tourism, a distinction can be made between geographical clusters (such as the French Riviera) and activity-based clusters (such as “green” tourism, wine-country tourism, and so forth).

The emphasis is thus on a systemic dimension: complementarity, co-localisation, synergies, integration (networking). The cluster’s virtuous operation suggests an ability for operators to work together - what Porter calls “social glue”, and which corresponds more or less to Pierre Bourdieu’s concept of “social capital”. The market behaviours of operators illustrate the concept of “co-opetition” – a mixture of competition (in the marketing stage) and conduct of a more co-operative sort (at the production stage and, earlier, at the innovation stage).

In tourism, small operators in particular are more sensitive to competition from their partners than to the benefits of working together. Most of the collaboration tends to involve destination marketing driven by territorial authorities.

In the future, the competitive advantages of firms will not be determined primarily by the efficiency of production factors used, but by their ability to exploit the resources available in the cluster in which they operate. In addition to expanding competitiveness, clusters play a major role in the capacity of operators to innovate (lower experimentation costs, better visibility, better responsiveness to shifting demand). This is the motivation behind a genuine “National System for Innovation in Tourism”.

Cognitive approach: innovation in tourism and the dynamics of knowledge

The «learning» tourism firm: evolutionary approach

One of the items on the agenda of evolutionary theory was to incorporate in economic theory the principles of biological evolution and natural selection. A distinction has to be made between codified knowledge: formal, recognised, taught, explicit (technical, theoretical, managerial) and tacit knowledge: spontaneously mobilisable learning and know-how. Know-how and tacit knowledge dictate economic agents’ responses. When well educated and trained, they delve spontaneously into the store of answers at their disposal to come up with the correct reply, without necessarily being able to explain either their choice or of what particular know-how the choices consist.

The frameworks of evolutionary analysis

- Routines: these are equivalent, in a firm, to an individual’s know-how. They stem from a whole series of learning processes, including broad areas of tacit knowledge. Agents’ behaviour is based on routines. Their choices are confined to their ability to identify opportunities.
- Learning exhibits a number of important characteristics:
 - It is cumulative and implies skills that are more organisational than individual.
 - It engenders knowledge that becomes part of organisational routines.

- The routines are not transferable and are part of the firm's specific assets.¹²

Over and above the factors of production that they mobilize, firms differ by virtue of the nature of the know-how accumulated in implementing the said factors. Basically, it is know-how and organisational skills that distinguish one firm from another.

It is the nature of the skills accumulated in a firm, its capacity to develop in its midst the learning needed to continue to evolve in a changing environment, that determines along what paths it will embark.¹³

It is that specific path which explains any changes in the firm's principal activity. Examples of this include Preussag's move from heavy metalworking to tourism (TUI) and the penetration of the travel sector by the big mass marketing companies.

Insufficient production of tourism innovations: knowledge as a public good

If innovation is driven by codified knowledge, the latter tends to circulate freely. Similarly, in tourism, product-innovation is visible and can be immediately imitated. This type of new knowledge is therefore what economists call a "public good" and we know, from the work of Arrow, that market mechanisms can only result in a sub-optimal level of production of innovations of this sort since innovators cannot keep for themselves the property rights associated with their innovations.

- **Insufficient tacit knowledge in tourism SMEs**

Inadequate know-how and routine-driven innovations in tourism SMEs justify, on the other hand, the need to offset this shortcoming by stepping up the circulation of codified knowledge, which concerns all the institutions responsible for this function in the tourism system. The shortcoming in question reflects two separate problems:

- *The diffusion of a genuine entrepreneurial spirit and rigorous professionalism* in the tourism SME sector. It is certainly conceivable that these entrepreneurs' propensity to innovate is being affected by the increasing instability of their environment (bankruptcies, buyouts, NICT, low barriers to entry...). They may also demonstrate a certain form of "limited rationality", preferring their activity's territorial and family roots to maximum profitability. It is true that some of them come from a traditional farming background (green tourism, camping and caravanning), small shops and craft trades. It is true that there are some notable improvements to be seen in this connection, thanks to the efforts made by trade associations and the public authorities, and also generation changes.
- *The mismatch between training and the jobs on offer in tourism* would appear to be much more responsible for blocking the momentum of innovation than any supposed deficiency of the "human capital" that constitutes these firms' teams.¹⁴ Admittedly, as in other sectors such

¹² A good example of the idiosyncrasy of tacit knowledge is that of the inimitable quality of the violins made in Cremona in the early 18th century by a handful of instrument makers of undoubted genius, including Stradivarius.

¹³ B. Coriat & O. Weinstein (1995) «*Les nouvelles théories de l'entreprise*», PUF

¹⁴ It is more especially where vacancies are concerned that there is this preponderance of unskilled jobs. In the HCR sector a growing number of young people are now educated up to BEP and BAC level, while the vast majority of job offers remain at level 5 (CAP). The composition of the jobs available is closely correlated with the innovative, or otherwise, nature of the firm.

as BPW, SMEs in the tourism sector use a lot of unskilled labour. The Parliamentary report by A. Franco¹⁵ (2003) stressed a great many malfunctions: the absence of any real tourism industry identity in training systems, jobs which are not highly thought of because of their closeness to domestic work and the leisure sector. What is more, seasonal jobs very often require no qualifications.

On top of this is the fact that innovation in tourism represents distorted technical progress since it goes hand-in-hand with a tendency to substitute capital for labour, thereby rendering the skills of the labour force obsolete. In chain restaurants using cold chain technologies – vacuum packing and pre-cooked products, for example – less use is being made of the traditional skills of cooks. As a result, this type of restaurant makes very intensive use of technological inputs imported from other non-tourism industries.¹⁶ The ensuing loss of know-how will consequently limit internal opportunities for innovation.

- **Inadequate incentive mechanisms**

This relates to tourism operators as much as to their employees:

- Where operators are concerned, three types of behaviour are in principle contrary to innovation:
 - The “public good” nature of tourism innovation prompts SMEs in the sector to adopt a “free rider” attitude, particularly since much of the effort to make territories more attractive (destination marketing) is borne by public bodies. Many people do not understand the point of adopting co-operative types of behaviour, yet they are crucial to the effectiveness of the tourism cluster.
 - Because aids to innovation are becoming increasingly complex and lack clarity, the “transaction costs of innovation”¹⁷ are increasing and tending to discourage many heads of tourism SMEs who are subject to the constraints of everyday management.
 - Risk aversion is also more marked amongst such business heads. Risk is perceived first of all as a danger that good management ought to avoid as much as possible. Yet risk is in essence identical to innovation, and has therefore to be managed and not avoided. Could the fabric of tourism SMEs be devoid of “Schumpeterian” entrepreneurs?¹⁸
- For these firms’ staff, it is the status of the jobs proposed, the working conditions and pay which may seem dissuasive:

¹⁵ Mission undertaken by Arlette Franco, Member of Parliament for the Pyrénées-Orientales, May 2003.

¹⁶ A-M Hjalager, *op. cit.*

¹⁷ I should like to thank Professor P. Keller for his comments on this question at the OECD Conference on Innovation and Growth in Tourism, Lugano, 18 September 2003.

¹⁸ Does that not prove Schumpeter’s second model (in “Theory of Economic Development”, 1942) right in thinking, in the final analysis, that the structure of monopolistic markets was more conducive to innovation (because of the scale of the monopoly rents collected by firms) than too atomistic a structure, in which SMEs exhaust themselves in a ruinous price war?

- With regard to status, the seasonal nature of a great many jobs, multiple activities and insecurity (large number of fixed-term jobs, extras) mean that career prospects are limited and likewise the hopes that an employee can have of receiving a fair return on his efforts to encourage innovation and imagination.
- Working conditions and pay largely explain why these jobs are unattractive. The problem of working hours in hotels and catering is well known, as is the low level of operatives' pay. As a result there is a substantial turnover of labour, which limits the opportunities for passing on tacit skills, the workforce being buffeted by too many upheavals. These conditions also explain why some staff are so little involved, remain passive and are afraid to put themselves at risk to no avail.

- **The channels whereby knowledge is passed on to the tourism industry**

Because of the difficulties of appropriating the intellectual property rights that tourism firms could derive from their efforts at innovation, and in view of the virtual absence of formal R&D, innovations in the tourism sector are not passed on via the same channels as in manufacturing industry (trade, collaboration in fundamental research, laboratories...). The role of trade and of the institutional framework is vital in this respect.

Apart from a tourism firm's capacity to produce new knowledge derived from its activity, as in learning by doing, it is important to consider its capacity to:

- Acquire and absorb existing innovations, to “internalise” knowledge that is codified and convert it into tacit know-how – into routines.¹⁹ This partly explains the pertinence of Solow's paradox with regard to the tourism industry.²⁰
- Broadcast and circulate its innovations, *i.e.* externalise them in the form of codified knowledge capable of being circulated much more easily.

This capacity depends on structural factors: the size of the firm²¹, type of organisation (see Chandler) and whether or not it belongs to a group. On this point, it seems clear that hotels which are part of an integrated or voluntary chain have a much stronger propensity to innovate, with the central management playing a vital role. However, it is the cognitive factors that would appear to be crucial: the proactive or reactive nature of routines, managerial skills (knowledge management), wage skills (qualifications, interaction, etc.).

The role of the national system of tourism innovation is also essential in at least four ways:

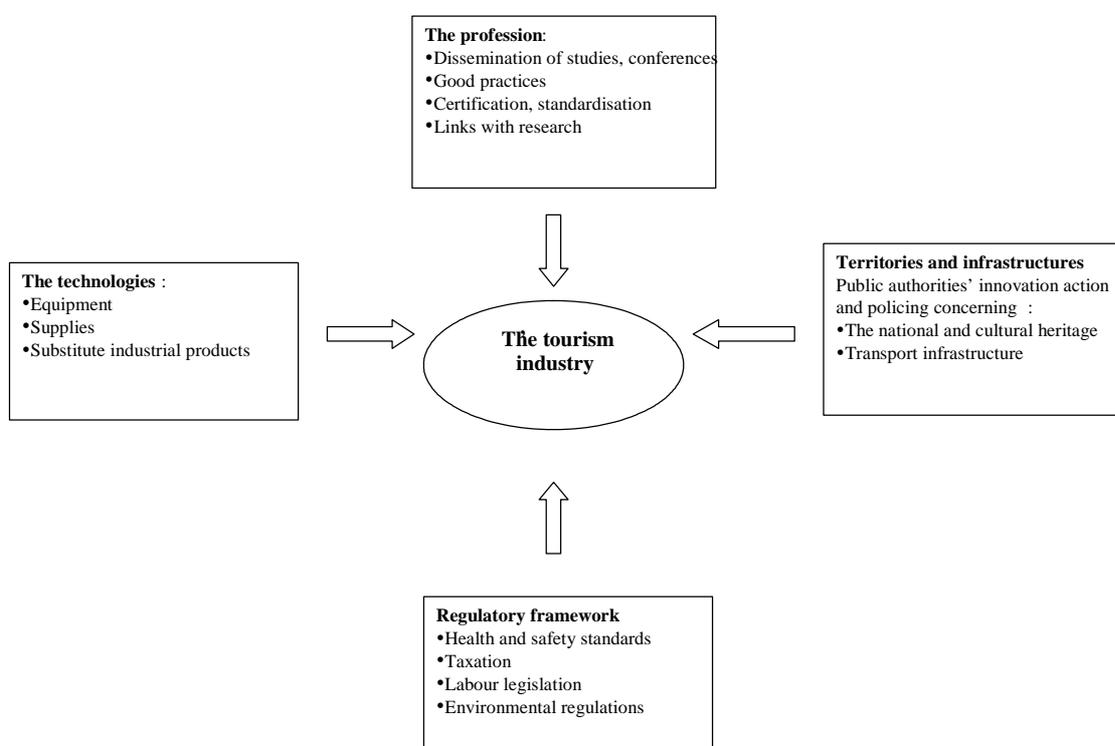
¹⁹ See M. Baker et al. (1998) « The productivity paradox and the hospitality industry », School of Management Studies, University of Surrey, UK: The impact of investment in NICTs on the performance of the hotel and catering sector under consideration is correlated with the level of management skills and, more especially, skill in setting up and management of information processing systems.

²⁰ R. Solow, winner of the Nobel Prize for economics, said in 1987: «You can see computers everywhere, except in productivity figures», thereby putting into perspective the hopes that were being placed in the ongoing technological revolution.

²¹ The question as to whether SMEs are better at innovation than large firms, or not as good, has been under discussion ever since Schumpeter's contradictory views on this point.

- Development of research, quality of the training provision.²²
- Tourism policy and action of institutional bodies [role of AFIT [*Agence française de l'ingénierie touristique*] and of the CDT (*Comité départemental du tourisme*) and CRT (*Comité régional du tourisme*)].
- Direct production of innovations by public operators (carriers, territorial authorities) with the benefit of government funds and substantial human capital.
- Indirect dissemination (percolation) by means of incentives (tax exemption) and assistance (subsidies).

The channels via which knowledge is transmitted to the tourism industry



Source: A-M Hjalager

Conclusion

A number of blockages referred to in this study can be removed with the object of improving the innovative nature of the tourism industry. There is, naturally, room for action by the public authorities, and also for all stakeholders in the tourism cluster. Steps need to be taken to:

²²

A reference to the hoped-for impact of the new BTS in tourism in France.

- Improve the internal dynamics of innovation: pushing firms to adopt a proactive attitude towards innovation, notably thanks to an ambitious shift from simple technology watch to economic intelligence.
- Improve the efficiency of the national system of innovation.
 - Improve the training of operators, staff (see the recommendations in the Franco report).
 - Develop the role of public and private agents: extend the prerogatives of AFIT and regionalise its action.
 - Stimulate research: create a genuine French-speaking, multi-disciplinary network.
- Improve incentive systems for operators and employees.
- Maintain the coherence of the tourism industry and its linkage with society as a whole. It is in fact not possible to think about innovation in tourism without acknowledging the need to mobilise the population which must, in particular, be prompted to cultivate the fundamental values of warmth and hospitality.