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An assessment of innovation profiles of telecom operators: a longitudinal comparison between BT and Orange from 2004 to 2013

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Abstract

A large body of research has focused on measuring innovation and the innovativeness of firms. One option frequently chosen is to analyse quantitative indicators published, often at the expense of an intimate understanding of the specific industry or firm context. Another option is to rely on in-depth case analysis relying on methods such as extensive interviews, which can be difficult to implement for various reasons. Little research specifically focuses on network operators, and in particular over a long period

In this paper we explore a methodology based on publicly available information for assessing and characterising the innovation profile of telecom operators over time. It combines quantitative and qualitative analysis and relies on an understanding of telecom operators' business. This methodology aims at allowing comparison between operators, and also to enable linking the observed innovation patterns. For example the innovation patterns observed can be related to external events such as changes in market, competition, regulation or technology. They can also be related to internal events such as change in top management or financial events.

So far we have included three components in this approach: (1) an analysis of quantitative indicators, (2) an analysis of service releases, and (3) an analysis of statements of Chairmen and CEOs. The main source is annual reports of companies. In this paper, we present an exploratory analysis of two operators, BT and FT/Orange from 2004 to 2013.

Keywords: Innovativeness, innovation, telecommunications, BT, France Télécom / Orange

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I. Introduction

A large body of research has focused on measuring innovation and innovativeness of firms. A review of the different ways to measure innovation is provided in Milbergs and Vonortas (2004). They distinguish between four generations of indicators: input indicators, output indicators, innovation indicators and process indicators. One option frequently chosen is to analyse quantitative indicators published, often at the expense of an intimate understanding of the specific industry or firm context. Another option is to rely on in-depth case analysis relying on methods such as extensive interviews, which can be difficult to implement for various reasons. Little research specifically focuses on network operators, and, in particular, takes into account a longer time period.

In this paper we explore a methodology based on publicly available information for assessing and characterising the innovation profile of telecom operators over time. It combines quantitative and qualitative analysis and relies on an understanding of telecom operators' business. This methodology aims at allowing comparison between operators, and also to enable linking the observed innovation patterns. For example the innovation patterns observed can be related to external events such as changes in market, competition, regulation or technology. They can also be related to internal events such as change in top management or financial events.

So far we have included three components in this approach: (1) an analysis of quantitative indicators, (2) an analysis of service releases, and (3) an analysis of statements of Chairmen and CEOs. The main source is annual reports of companies. In this paper, we present an exploratory analysis of two operators, BT and FT/Orange from 2004 to 2013.

The ultimate aim is to conduct two types of analyses. The first is an analysis of internal coherence by linking the different components. For example, how are strategic directions implemented and how are these implementations consistent with the indicators or market figures collected? Other types of events may be tested in order to explain the observed patterns. The second is a comparative analysis between different operators. In this paper we are only able to provide some preliminary analysis, as the research is not fully completed yet.

2. Quantitative indicators

From BT's annual reports, we have selected the following indicators (Table 1)

Operator		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
BT	Revenue (£m)	18623	19514	20223	20704	21390	20859	20076	19307	18253	18287
BT	Operating costs (£m)	16005	17246	17915	18697	21318	16077	14563	13630	12464	12171
BT	EBITDA (£m)	2085	2495	2541	2356	411	5162	5886	6064	6181	6116
BT	Costs of R+D (£m)	522	727	1119	1252	1119	789	684	560	544	530
BT	Patents number	109	141	162	168	120	63	62	65	69	89
BT	Earning per share -basic (points)	18,1	19,5	22,7	23,9	18,4	17,3	21	25,8	26,7	25,7

Table 1. Financial Indicators for BT 2004-2013. Source: BT Annual Reports

It can be noted that during the period 2004-2008, BT experienced a significant increase in revenues, corresponding to an increase in the number of patents released and also in the Research and Development budget. However between the period 2008-2013, as a result of economical crisis and market regulation, BT adjusted its strategy. Therefore, the investment in research and technology has been reduced, resulting in a lower number of patents.

Here are the same indicators for France Telecom/Orange

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Revenue (€m)	46158	48082	51702	52959	53488	45944	45503	45277	43515	40981
Operating costs (€m)	28235	29666	33163	33916	36405	31150	31166	30148	31020	28746
EBITDA (€m)	17923	18416	18539	19043	17083	14794	14337	15129	12495	12235
Costs of R+D (€m)	597	716	856	894	900	862	845	819	812	780
Patents number	454	530	512	403	350	349	327	313	291	276
Earning per share -basic (points)	1,23	2,28	1,59	2,42	1,56	1,4	1,4	1,4	0,78	0,8

Table 2. Financial Indicators for France Telecom/Orange 2004-2013

From the above data, it can be observed the impact of the economic crisis that affected the industry in 2008-2009 resulted in reduced revenues. Orange tried to reduce operating costs, but without a consistent effort.

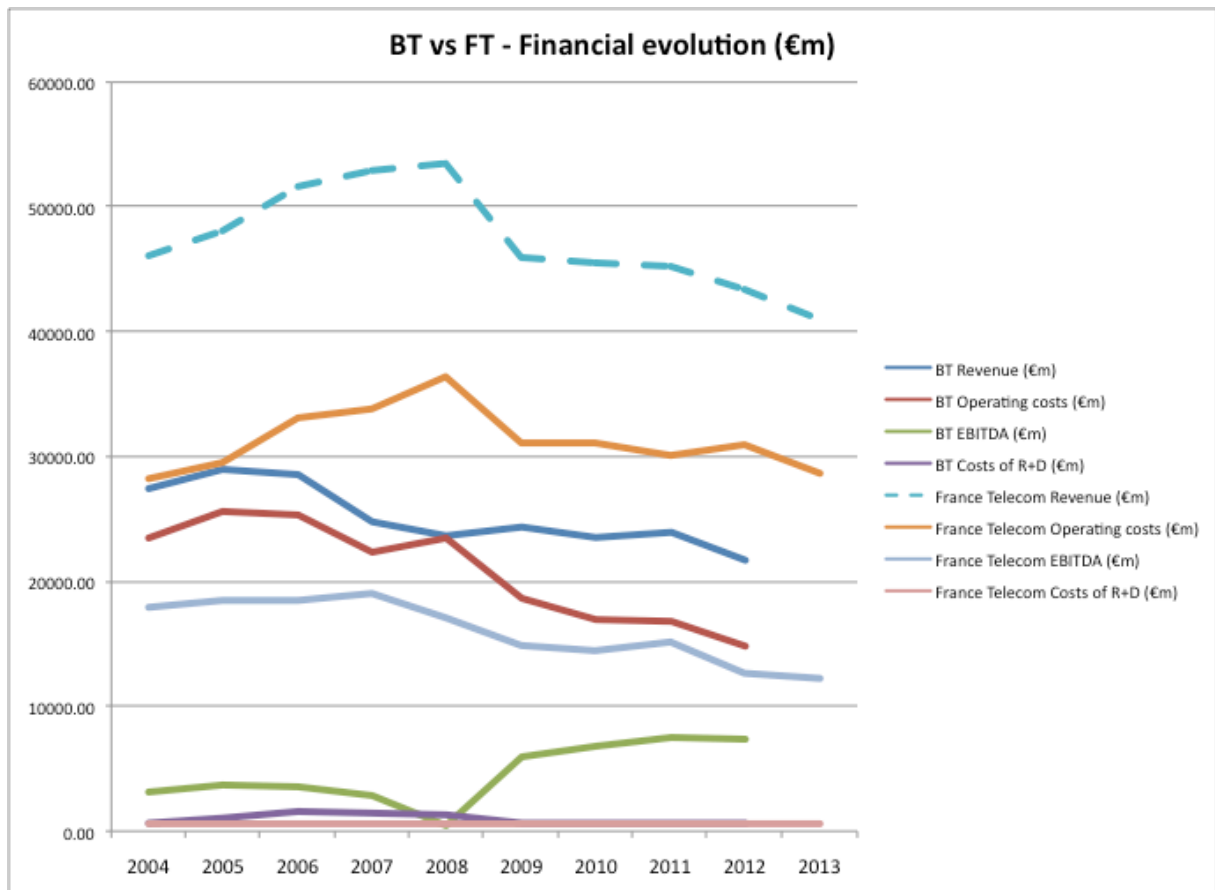


Figure 1: Comparison between BT and France Telecom/Orange

It can be further observed (figure 1) that revenues from Orange are higher than revenues from BT. However, the budget levels for R+D are similar, and in some cases BT spent more than FT/Orange. Further investigation is needed to find out if it expresses differences in R&D expenses efficiency, economies of scale, or simply differences in accountancy methods. It can be also noticed that the number of patents is significantly higher for FT/Orange, which also needs to be further investigated.

3. Product releases

We have selected a set of products that were released by operators BT and Orange during the period 2004-2013: Ethernet services; Fiber services; Mobile Data; M2M Technologies; Video On Demand and TV Services; Content Delivery; Cloud Services; Converged Services; B-Brand strategy and Internal Innovation

Only two are presented here as examples: Broadband Internet (i.e. ADSL) and Fiber services

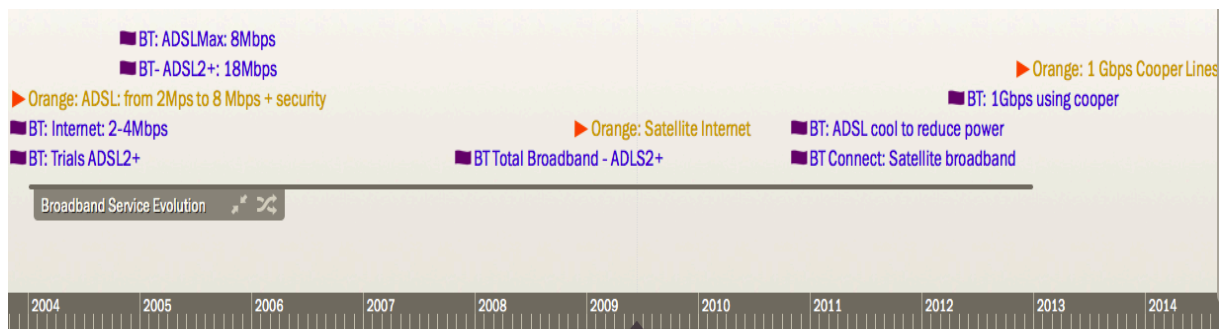


Figure 2: Broadband Services for BT and France Telecom/Orange. Period 2004-2013

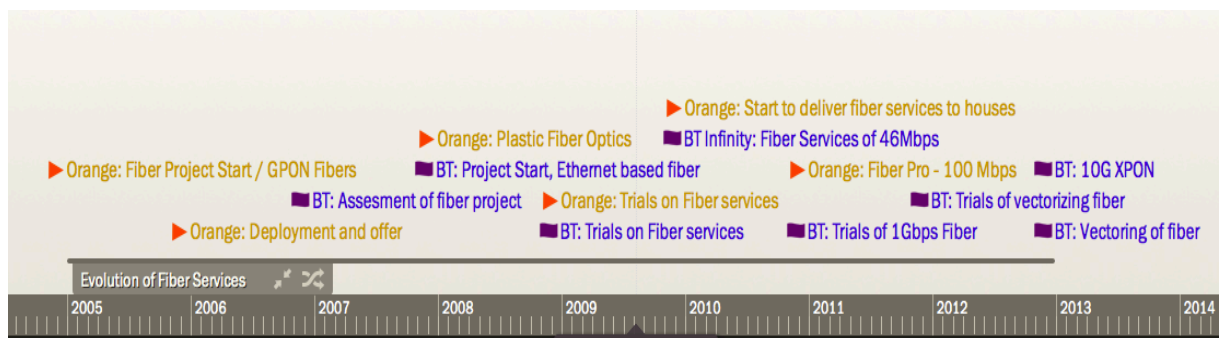


Figure 3: Fiber Services for BT and France Telecom-Orange. Period 2004-2013

As can be observed in these two cases, while the service offered are similar, France Telecom/Orange tends to implement and launch services a bit earlier than BT, which seems to have a more cautious approach. The same pattern has been observed for the most of the other releases analysed.

4. Chairmen and CEO statements analysis

Over the same period, we have analysed the speeches from chairmen and CEOs in order to identify the strategic directions emphasised, the business objectives, and the innovation directions (see appendix).

Then, a preliminary content analysis has been made, following Strauss and Corbin (1990). The content analyse shows the most frequently recurring topics (figure 4)

Name	Grounded
International Approach	106
Willing to grow	93
Strategy	87
Innovation	84
Employees Talent	69
Competitive Attitude	62
Customer Satisfaction	61
Adaptation	50
Operating efficiency	48
Convergence	48
Dividends	47
Profitability	46
Internet	42
R&D Budget	40

Figure 4: Main topics by number of occurrence

We conducted then an analysis of related topics for each of the four main topics listed in figure 4. Here are the results for the topic “innovation”.

Innovation for BT is mainly linked to the following topics (Table 3):

Main Topics	Mentioned in
1. Promotion of new technologies and new products	- Chairman: 2006, 2008, 2010-2012 - CEO: 2004-2012
2. Investment	- Chairman: 2004-2006, 2008-2010, 2012 - CEO: 2007-2009, 2011-2012
3. Improvement of customer experience	- Chairman: 2005-2007, 2011 - CEO: 2004-2011
4. To adapt, to change or to define new ways of working	- Chairman: 2004, 2006-2007, 2011 - CEO: 2005-2006, 2008, 2012

Table 3; main topics related to Innovation (BT)

In addition, there are other topics which occurrence is not so continuous.

Additional Topics	Mentioned in
- Willingness to grow in the future	- Chairman: 2004, 2007, 2009 - CEO: 2005-2007, 2011
- To develop International Markets	- Chairman: 2011 - CEO: 2004, 2006-2007
- A way to achieve a strategy	- Chairman: 2009 - CEO: 2007
- Simplicity in doing things	- Chairman: 2004-2005 - CEO: 2005-2006

Table 4: Additional topics related to Innovation (BT)

For Orange the following topics are closely linked to innovation (Table 5)

Main Topics	Mentioned in
1. Promotion of new technologies and new products	From 2004 until 2013
2. Improvement of the customer experience	From 2004-2010 and 2012-2013
3. To develop International Markets	From 2004 to 2011
4. Willingness to grow in the future	From 2004-2006 and 2008-2012

Table 5: main topics related to Innovation (FT/Orange)

Innovation for Orange is also linked to:

Additional Topics	Mentioned in
- A way to achieve a strategy	From 2004-2005, 2008-2010 and 2012
- To adapt, to change or to define new ways of working	From 2004-2008 and in 2011
- Investment	From 2004-2008 and 2012-2013
- Simplicity in doing things	From 2004-2008
- Branding	From 2004-2008

Table 6: Additional topics related to Innovation (Orange)

Nearly the same topics are linked to innovation for both operators, only the order according to the number and continuity of occurrence vary.

5. Preliminary conclusions

After a first preliminary analysis, the following conclusions can be drawn.

Firstly, there seem to be a good internal coherence between the three components of our analysis. Statements from chairmen and CEOs are effectively followed by product releases, R&D budget changes and variations in the number of patents. For example, in 2004 BT's Chairman (C. Bland) mentioned the importance of transforming the business in order to provide new IT services, which was also stated by the CEO (Ben Verwaayen). During the

following two years, the R&D budget increased, the number of products and services related to IT increased, as well as the number of patents.

Secondly, although we did not yet conduct an external event analysis, the effect of some obvious events such as the 2008 economic crisis is noticeable. In particular, in the case of BT, it resulted in a continuous cost reduction strategy from 2009 to 2013.

Thirdly, the analysis of infrastructure deployment and product releases shows that Orange tends to implement and launch new services earlier than BT. It is consistent with the tone of statements from Chairmen and CEO and from the alleged strong technical culture of the company. Probably not unrelated to the financial policy of BT, this operator seems to have a more cautious approach by checking that the market is ready before launching new services.

Finally, we found from the statements analysis that topics are recurring during the whole period studied. We would have expected more variation according to the year concerned, due to internal or external events or evolutions. A frequency analysis of topics over time should show more differences.

At the current state of completion of this research, some limitations can be outlined. The set of quantitative indicators needs to be complemented. The interpretation of the patterns observed could further be improved by interviews of experts and additional literature review. An identification of significant external events is also necessary. As concerns the topics drawn from statements, we need to add a dynamic analysis based on the frequencies of occurrence each year.

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