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# **The Value of Tourism Innovation: The Case of US Hotels**

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## **INTRODUCTION**

Innovation of tourism products and services is a driving force of continued success among tourism service providers (Hjalager 2013). Environmental changes such as the great recession, terrorism, deadly diseases and natural disasters challenge tourism service providers and force them to continuously improve the quality of products and services offered as well as to cut costs and increase profits. The majority of travel budgets is spent on accommodation (e.g. 30-50% of business travel expenses [CWT 2014]). On the onset of a period of growth in both leisure and business travel, especially through increased spending by millennials (MMGY 2014) it is important to understand the innovation behavior of accommodation businesses both for tourism decision makers and investors; the former need to know of current and future destination offerings, whereas the latter are interested in their return on investment. The goal of this study is to identify recent trends in hotel innovation, test a coding and cluster approach and identify the effect of innovation on firm value.

## **LITERATURE REVIEW**

### ***Hospitality Innovation***

According to Damanpour and Gopalakrishnan (1998) innovating organizations typically engage in two processes; the generation process to develop a new product or service (i.e. the outcome) and the adoption process to assimilate the outcome. Ottenbacher (2007) found that German hotel firms pursue different goals from improved market performance (e.g. attracting new customers and open up new markets) to improved financial performance (e.g. increasing profitability, efficiencies, and sales) and employee and customer relationship enhancement (e.g. increased competency, customer satisfaction and loyalty). The lodging industry per se is not an innovator in the most stringent sense to develop products and services that are new to the world. Rather, the hotel industry is oftentimes a quick adopter of non-hospitality innovations to exploit them for the benefit of travelers and operators alike (Hjalager 2013; Brooker and Joppe 2014).

In the past few years the lodging industry saw a tremendous increase in innovations. Examples span from LEED certified buildings following the US Green Building Council

guidelines, to the introduction of new brands to respond to consumer changes (e.g. Marriott's new MOXY brand is an acronym for "Move Over Generation XY") to smartphone apps as room controllers and room keycard replacements. Continuous improvements to drive market differentiation are critical to attract new customers (e.g. attracting a clientele that otherwise would not stay with a property) and keep existing customers returning simply because there is something new or improved that enhances the experience. A recurring challenge with innovations often is their degree of newness. Especially accommodation businesses find it hard to develop truly new innovations for ever more experience and demanding travelers.

### ***The Newness and Value of Innovation***

In the context of newness research needs to pose the question "New to whom?". It arises from the basic innovation research question: "Who is perceiving something as new and who is adopting it?" or: "What is the unit of adoption and the unit of our investigation?" (Zaltman et al. 1973; Slappendel 1996; Rogers 2003). Apart from dealing with newness, the question "New to whom?" also deals fairly with successful adoption, acceptance or implementation. Innovations that challenge organizational settings provide windows of opportunities through which organizations can enter new markets, approach new market segments and better sell current products and services (de Brentani, 2001). The adoption of innovations, especially those that are currently not supported by the organizational setup, require organizational adjustments and possible investments and thus occur a cost for the organization prior to receiving the reward.

Although this study does not investigate the success of the adoption, it elaborates on the added value created through the adoption for accommodation business. The outcomes of the innovation process can change the condition and add value to the firm (Pullman, Verma, and Goodale 2001). The consequences of adoption can create or reduce value for firms (Rogers 2003). Lastly, while there is still some believe that service innovations are based on luck or intuition (e.g. Frohele, Roth, Chase and Voss 2000), there is strong evidence that service innovations build upon the same conditions that lead to successful product innovations (Easingwood 1986).

## **METHODOLOGY**

To identify recent innovations in the accommodation industry press releases for the US operations of two prominent US hotel firms with several brands catering to similar market segments were collected from January 1, 2011 to December 31, 2013. Following a study by Nicolau and Santa-Maria (2013) only press releases with selected keywords (innovation, innovate, novelty, new product, new service, new process, new procedure, new system, or new technology) were used. The research team screened all resulting press releases for their relevancy. Articles that did not reflect on firm innovation behavior (e.g. a hotel property hosts a mobile app launch event) as well as duplicates were discarded.

Next, following Krizaj, Brodnik and Bukovec (2014) the press releases were coded using innovation taxonomies proposed by Hjalager (2002), Jacob et al. (2003), Volo (2006), UNWTO Thesaurus on Tourism and Leisure Activities (UNWTO, 2002) and the OECD Oslo Innovation Manual (OECD 2005) as a starting point. Under the top level of each main category (e.g. product innovation vs. managerial innovation) codes were allocated following a tree structure. Each press release received as many codes on as many tree sub-levels and branches as necessary to fully reflect the innovation. Following data coding principles by Saldana (2013) coding notes were compared and disagreements were discussed and resolved. The highest number of tree sub-levels

for a press release was 7 and is used here to illustrate the tree structure for a new loyalty program artner: innovation base > marketing > loyalty program > member benefits > new redeem partner > entertainment company > Cirque du Soleil

Once coding was finalized Jaccard distance calculations and unweighted average hierarchical cluster analysis were conducted to identify underlying groups of innovations (Krizaj et al. 2014). To streamline the coding process for future studies cluster analysis was conducted incrementally on all tree coding sub-levels (i.e. from level 1 to 7).

Next an analysis of the value effects of innovation announcements was performed. Similar to the generally acknowledged approach by Brown and Warner (1985), cumulative abnormal market adjusted returns (CAR) were calculated for press release dates of each article in a given cluster using three, five, and eleven day windows surrounding the announcement date. Daily market adjusted returns were formed using rolling betas calculated from the 150 day period ending 10 days prior to each trading day. Statistical significance of CAR was determined using t-statistics calculated from the standard error of abnormal returns over the 80 trading day period ending 20 days prior to the announcement date.

## **RESULTS AND DISCUSSION**

From an initial set of 149 (firm 1) and 137 (firm 2) 65 (43.6%) and 66 (48.2%) press releases were retained, respectively. On average 2.29 code branches were allocated on up to 7 tree sub-levels. Two similar and meaningful sets of clusters were identified when using codes going to depth 4 and depth 7 (all tree sub-levels) resulting in 4 and 6 clusters, respectively. Three clusters in the 6 cluster solution merge to one cluster in the 4 cluster solution. This merged cluster also includes three press releases that were not allocated to any cluster in the more granulated 6 cluster solution. Last, two of the clusters stay the same in both cluster solutions.

The results from the event study showed that the cluster which is the same across the two coding levels of depth has a strong negative effect on firm value for both firms in a combined analysis and in a firm specific analysis (see Table 1). This cluster is a collection of press releases that announce the opening of new properties, i.e. the entrance of new markets (market performance innovation) according to Ottenbacher (2007). This negative effect suggests that there is uncertainty about the extension of a brand into a new geographic area. However, the small size of the dataset does not warrant the claim that non-significant clusters have no effect on firm value. It merely suggests that the significant effect of the new property cluster despite the small sample size is most likely stronger with more observations and that other clusters have a weaker effect that cannot be captured by the small sample size.

The consistency between the two cluster alternatives (4 vs. 7 [all] levels of depth) and across the two firms and the combined sample suggests that the developed methodology to identify innovation can be applied in the context of the US hotel industry. Last, the merged cluster in the 4 cluster solution indicates, that more granularity among clusters is provided with more levels of depth, however, the non-significance of these clusters or the merged cluster suggests that the laborious effort to code press releases in more detail does not result in more meaningful results.

**Table 1.** Event study analysis results for new openings cluster

Combined Sample	4 levels of depth			7 levels of depth		
	3 days	5 days	11 days	3 days	5 days	11 days
CAR	-0.007**	-0.011***	-0.014***	-0.006**	-0.010***	-0.013***
p-value	(0.012)	(0.002)	(0.005)	(0.018)	(0.003)	(0.008)
N firms	43	43	43	39	39	39
<b>Firm 1</b>						
CAR	-0.004	-0.012**	-0.019**	-0.003	-0.012**	-0.019**
p-value	(0.386)	(0.027)	(0.015)	(0.477)	(0.025)	(0.017)
N firms	17	17	17	14	14	14
<b>Firm 2</b>						
CAR	-0.009**	-0.010**	-0.010*	-0.008**	-0.009**	-0.010
p-value	(0.013)	(0.031)	(0.098)	(0.023)	(0.049)	(0.130)
N firms	26	26	26	25	25	25

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