



Umbrella branding and external certification[☆]

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ARTICLE INFO

Article history:

Received 3 July 2007

Accepted 12 March 2008

Available online 27 March 2008

JEL Classification:

L14

L15

M37

D82

Keywords:

Umbrella branding

Certification

Signalling

ABSTRACT

In a market environment with random detection of product quality, a firm can employ umbrella branding as a strategy to convince consumers of the high quality of its products. Alternatively, a firm can rely on external certification of the quality of one or both of its products. We characterize equilibria in which umbrella branding fully or partially substitutes for external certification. We also show that the potential to signal quality is improved if consumers condition their beliefs on the source of information, namely whether information comes from external certification or from random detection.

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1. Introduction

In this paper, we present an information-based theory of umbrella branding as a full or partial substitute to socially costly, external (or, equivalently, third-party) certification. We consider an adverse selection environment in which a firm holds private information about the product quality of its two products and in which the asymmetric information problem is severe from society's point of view, in the sense that it is socially desirable to have high-quality products on the market, whereas it is socially undesirable to have low-quality products on the market. Certification of product quality is a viable option for a firm to reveal high product quality, but it is costly both from a private and a social point of view. However, a firm with broad abilities, i.e., which is able to produce two different high-quality products, may fully or partially avoid costly external certification by the use of umbrella branding. A firm with narrow abilities, i.e., which is able to produce only one high-quality product, must resort to external certification. We are able to capture these results in a simple one-period model, assuming that prior to purchase there is a positive probability that product quality will be revealed to all consumers (e.g., due to random inspections by a public authority).

For illustration, consider the market for bottled water in Europe. Taking a look at major European countries, we observe that many products are certified by an external laboratory. For instance, in Germany, the company Fresenius acts as an external certifier for most German producers. Fresenius regularly checks the water quality, and its analysis of water ingredients (in particular, minerals) is printed on the bottle. However, recently international companies such as Coca-Cola

[☆] We received very helpful comments by an associate editor and two referees of this journal.

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and Nestlé have entered the markets with their products Bonaqa and Aquarel, respectively. Bonaqa is then sold, for example, in vending machines together with other Coca-Cola products; Aquarel is sold explicitly under the Nestlé brand. While Bonaqa provides minimum information on ingredients (without reference), Nestlé does not provide any information. On its UK web site, it merely says: “The stringent controls set out by Nestlé guarantee the high quality of Nestlé Aquarel.”¹ Both companies refrain from the use of an external certifier and implicitly or explicitly sell the product under an umbrella brand. Note that consumers may also obtain information about product quality through (random) detection, e.g., via tests published by the non-profit organization Stiftung Warentest: In 2002, it published a quality index for 29 mineral waters that were sold in Germany. Since there are more than 200 producers of mineral waters in Germany and tests are not repeated regularly, this gives rise to a positive probability that product quality is detected before purchase.²

Umbrella branding is a frequently used business practice that has received wide attention in the academic and non-academic business literature.³ The general feature in an asymmetric information environment is that umbrella branding allows consumers to correlate beliefs. The use of umbrella branding and, when available, information regarding one product are used to update beliefs about the quality of other existing or future products for which this information is lacking. The existing economics literature has looked at a variety of moral hazard (Choi, 1998; Andersson, 2002; Hakenes and Peitz, 2008; Cabral, 2007) and adverse selection environments (Wernerfelt, 1988; Cabral, 2000; Miklós-Thal, 2007).⁴ In all these papers umbrella branding is the only signalling strategy available to the firm. Our paper is complementary to these papers in that we consider a market in which an alternative “signalling” strategy, namely costly external certification, is readily available to the firm and can reveal product quality to consumers. With external certification, the trivial reason that signalling works is because the quality of a product is fully revealed to consumers by a certifying expert, whose verdict is assumed to be beyond doubt. But when does umbrella branding provide “certification” in such an environment, and can it be a substitute for external certification? Clearly, direct costs involved in the use of umbrella branding must be lower than those for external certification. But is this sufficient? Or, despite its lower costs, does umbrella branding lose its signalling potential in an environment in which external certification is available?⁵ This paper makes three points.

First, for a firm that produces two high-quality goods, umbrella branding can be the profit-maximizing strategy. One type of equilibrium consists of a firm with two high-quality products using umbrella branding to fully substitute for external certification. We show that the umbrella branding strategy is not profitable for other firms. The reason is that, since there is a positive detection probability, umbrella branding allows consumers to use negative information they receive on one product when forming their posterior belief about the quality of the other product.⁶ Therefore, a firm with one high- and one low-quality product obtains higher profits if it does not use umbrella branding but externally certifies its high-quality product.

Second, under certain parameter constellations, there are equilibria with partial certification. Here, the certified product serves as an anchor for the non-certified product under the umbrella brand. Imitation by a firm that also has a low-quality product is not profitable if the detection probability is sufficiently high. In this environment, there are no reputation feedback effects; this contrasts with an equilibrium in which umbrella branding works as a signal absent certification. Still, there is a role for umbrella branding, since external certification costs can at least partly be avoided, presuming that the use of umbrella branding is costly.

Third, the signalling potential of umbrella branding is improved if consumers condition their beliefs on the source of information they receive. There are two sources of information: The deliberate decision by the firm to certify its product, which reveals quality with probability 1, and (if certification is not used) the random detection of quality, which reveals quality with positive probability strictly less than 1. But what is the motivation for a firm to certify one of its products under umbrella branding if consumers believe that umbrella branding on its own is regarded as a quality signal? It must mean that the firm wants to prevent the product that is detected to be of low quality from having a negative impact on the perception of the other product's quality. This means consumers should believe that a firm that certifies one product under

¹ See http://www.nestle-aquarel.com/uk/a-1_eau_source_naturelle.htm, checked May 7, 2008. Similar statements are found for other countries in their local languages. According to EU definitions, Bonaqa is a table water and Aquarel a spring water, whereas other producers typically sell mineral waters. Although there are clear criteria to distinguish between these kinds of water, average consumers appear to consider that they belong to the same product category. By 2006, Bonaqa has established itself as a leading brand in the market for table and mineral waters in Germany (as, e.g., documented in Stern trend profile 04/06, published by the German magazine *Stern*).

² As another illustration, we can take the organic food industry in Germany, where some producers rely on external certification through, e.g., Demeter or Bioland, while others use their umbrella brand as an attempt to convince consumers of their quality. Both strategies can be understood as an attempt to convince consumers that quality is above the standards that are required by the European Union. In addition, there are random checks in the form of tests published by magazines such as *Ökotest*.

³ A number of empirical papers (with experimental as well as field data) are broadly consistent with the view that umbrella branding allows a firm to solve an asymmetric information problem. For empirical evidence (with field data) see e.g. Erdem (1998) and Balachander and Ghose (2003). For experimental evidence see e.g. Aaker and Keller (1990).

⁴ Some recent work looks at additional issues, e.g. Cai and Obara (2006) at horizontal integration and Dana and Spier (2006) at bundling.

⁵ By comparing two different marketing strategies, namely external certification and umbrella branding, our paper contributes to the literature on the design of marketing practice and its allocative consequences (see Wernerfelt, 1994). For an informal discussion in the context of the food industry, see Spoleder and Goldsmith (2001).

⁶ To support umbrella branding as a signal, the use of umbrella branding has to be costly in our base model (see Section 4). However, as is shown in Section 5, under additional conditioning of consumer beliefs umbrella branding may be a signal of product quality, even if its use is associated with lower costs than selling products under separate brands.

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