The 7th International Research Symposium of the SGBED

Managing Business in a Digital Age: Opportunities and Challenges

PROCEEDINGS

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Hosted by Skyline University College, Sharjah, United Arab Emirates

Editors

Gouher Ahmed, Naseem Abidi, Yam B. Limbu, C. Jayachandran, Silvio Cardinali

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The 7ᵗʰ International Research Symposium of the SGBED

Editors
Gouher Ahmed[1], Naseem Abidi[2], Yam B. Limbu[3], C. Jayachandran[4], Silvio Cardinali[5]

The SGBED (Society for Global Business & Economic Development) organized its 7ᵗʰ International Research Symposium, **"Managing Business in a Digital Age: Opportunities and Challenges"** in collaboration with Skyline University College, Sharjah, United Arab Emirates (UAE) during December 17-19, 2018, at Le Méridien Dubai Hotel & Conference Centre, Dubai. The SGBED established in 1995 continue to serve the academia with the following objectives:

- Promote research and publications in the area of business and development issues by organizing major international business conferences and research symposiums around the world;
- Facilitate networking opportunities for faculty and generate opportunities for collaborative research and publications; and
- Organize professional seminars and workshops in collaboration with partner institutions on business topics and issues pertaining to emerging markets and developing countries.

The SGBED had so far organized 7 international research symposiums and 15 major International Business conferences. The 16ᵗʰ International Business conference is scheduled to take place in Sao Paulo, Brazil in June 10-12, 2019.

The 7ᵗʰ symposium had an excellent response from 27 different countries with 120 papers on the following themes.

- Advances in Digital Technologies and Development: *Digital Technologies across Urban and Rural Communities; Agriculture, Manufacturing & Services; Health Care, Education; Tourism & Hospitality, Entertainment, etc.*
- Knowledge, Human Capital & Data Management in a Digital Age: *HR, Intellectual Capital, Technology Management, Technological Forecasting & Big Data;*
- Entrepreneurship, SMEs, Micro Enterprises in a Digital Age: *Mobile Technology, "Apps," Crowd Funding & Enterprise Development.*
- Marketing & Consumer Behavior in a Digital Age: *commerce; B to B; B to C; C to C Transactions*
- Sales Force Management & CRM in a Digital Age:
- Integrated Marketing Communications in a Digital Age: *Digital Advertising; Social Media & Social Networks*
- Supply Chain Management in a Digital Age:
- Digital Technology in Government and Delivery of Public Goods & Services: *Role of Bio-metric Identity Cards (eg, Aadhaar in India)*

- Banking, Finance, Accounting, Taxation & Payment Systems in a Digital Age
- Privacy, Cyber Threats & Security Issues

Based on authors' preferences, symposium proceedings include full papers and abstracts.

We sincerely appreciate the Symposium Organizing Committee and all the sponsors and voluteers to make it a memorable event.

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1. Dr. Gouher Ahmed, Co-Chair and Host Coordinator of 7th SGBED International Research Symposium, SGBED Regional Coordinator-Middle East and Professor at Skyline University College, UAE.
2. Dr. Naseem Abidi, Professor and Chair-Outreach and Accreditation Committee at Skyline University College, UAE.
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4. Dr. C. Jayachandran, President SGBED, Professor at Montclair State University, USA.
5. Dr. Silvio Cardinali, Co-Chair and Vice President SGBED, Associate Professor, Polytechnic University of Marche, Italy

AWARDS

The following research papers of the 7th SGBED International Research Symposium were judged and given best paper awards.

Organizing the Marketing Actions Around Premium Price in Technological Brands - The Case of Apple.
Simonetta Pattuglia, University of Rome "Tor Vergata", Italy
Sara Amoroso, University of Rome "Tor Vergata", Italy

Social Costs and Economic Benefits of Contract Employment: The Case of India
Sivakumar Venkataramany, Ashland University, USA

The 7th International Research Symposium of the SGBED was recognized by Government of Dubai

AWARD RECIPIENT

Pofessor & Co-Chair
Dr. Gouher Ahmed

The Government of Dubai Award

The 7th SGBED International Research Symposium is recognized as the best organized event by the Government of Dubai and awarded the prestigious Al Safeer Congress Ambassador Award on 27th February, 2019. Prof. Gouher Ahmed, Co-Chair & Host Coordinator of Symposium, SGBED Regional Coordinator Middle East, and Professor at Skyline University College, received the award from His Excellency Helal Saeed Almarri, Director General of Dubai Tourism, Government of Dubai, UAE.

SUPPORTING JOURNALS

1. *Journal of Knowledge Management*

   Emerald, ABDC A Category, SCOPUS Index (IF5y: 3.293).
   Manlio Del Giudice, Editor in Chief Journal of Knowledge Management, University of Rome, Link Campus Naples, Italy

2. *International Journal of Business and Emerging Markets*

   Inderscience, SCOPUS indexed and ABDC listed journal.
   Guest Editors:
   Isaac Wanasika, University of Northern Colorado, USA.
   Yam B. Limbu, Montclair State University, USA.
   Ying Hua, University of International Business and Economics, China
   Na Wang, Huaqiao University, China

3. *International Journal of Sustainable Society*

   Inderscience, SCOPUS indexed journal.
   Guest Editors:
   Gouher Ahmed, Skyline University College, UAE.
   C. Jayachandran, Montclair State University, USA.
   Yam B. Limbu, Montclair State University, USA.

4. *International Journal of Business Analytics*

   IGI, SCOPUS Indexed journal.
   Guest Editors:
   Yam B. Limbu, Montclair State University, USA.
   Silvio Cardinali, Università Politecnica Delle Marche, USA.
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Referencing

Referencing of research papers published in the proceedings may be used as,

Signori Paola, Gozzo Irene, Bisutti Vittoria, Segato Severino (2019), Digital corporate identity congruence analyses: highlighting critical issues and untapped opportunities. A focus on Italian SMEs of the dairy industry, in Ahmed G., Abidi, N., Limbu, Y., Jayachandran, C., Cardinali, S., (Eds.), *Managing Business in a Digital Age: Opportunities and Challenges,* Proceedings of the 7th International Research Symposium of the SGBED, pp. 171-184. ISBN 13 978-0-9797659-4-0

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DIGITAL CORPORATE IDENTITY CONGRUENCE ANALYSES: HIGHLIGHTING CRITICAL ISSUES AND UNTAPPED OPPORTUNITIES. A FOCUS ON ITALIAN SMES OF THE DAIRY INDUSTRY

Paola Signori, paola.signori@univr.it
Irene Gozzo, ire.gozzo@gmail.com
Polo Scientifico Didattico Studi sull'Impresa, University of Verona, Vicenza, Italy
Vittoria Bisutti, vittoria.bisutti@unipd.it
Severino Segato, severino.segato@unipd.it
Department of Animal Medicine, Production and Health, Padua University, Padua, Italy

ABSTRACT

Firms often signal their identities through their digital footprints. The context chosen for this research is the Italian dairy industry, which is fragmented with many product-oriented smaller farms. Corporate identity congruence (CIC) refers to the fit between several corporate identity meanings. These meanings are signaled to stakeholders by multiple vehicles, some of which are digital in nature. Digital signal analyses could reveal misalignment between offline and online communication. The research design involves multiple studies: phenomenological interviews on 7 case studies, using NVIVO to analyze transcripts and other documents; nutritional and chemometric analysis on dairy products; corporate identity congruence meaning based analysis, with a particular focus on digital communication. Misalignments discovered between what companies do, who they are, and what they say (offline and online) are discussed as critical issues. This digital CIC analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity.

Keywords: Corporate Identity, Congruence, Dairy industry, Digital Communication, Big Data.

Introduction

A digital corporate identity analysis is able to reveal critical issues and untapped opportunities for those companies that are still digital novices. Sometimes these firms lack modern communication and digital skills. This study aims to help practitioners in understanding their communication misalignments, conducting a meanings-based analysis of their corporate identity, and in providing insights from mixed methods analysis of interview, print and digital content.

A corporation's identity refers to what an organization stands for and the mix of elements that give the organization distinctiveness (Balmer, 1998; 2008; Wernerfelt, 2014). The origins of corporate identity research have been traced at times to ideas presented by Olins (1978; cited in Balmer, 2015) and Kennedy (1977). It can be conceptualized as "what we indubitably are" (Balmer & Greyser, 2006, p.735; van Rekom, 1997), or the management of all ways the organization presents itself to all of its audiences (Olins, 1995), or holistically as comprised of four dimensions, i.e., communication and visual identity, behavior, corporate culture, and market conditions.

Despite the interdisciplinary nature of corporate identity, an extensive literature base currently exists on the corporate identity theme within marketing alone. A number of these articles offer literature reviews covering over two decades of work on corporate identity conceptualizations (Abratt, 1989; Balmer, 1998, 2001, 2008; Balmer & Greyser, 2002; 2003, 2006; Brown, Dacin, Pratt & Whetten, 2006; Cornelissen, Haslam & Balmer 2007; Cornelissen, Christensen & Kinuthia 2012; Dacin & Brown, 2002, 2006; He & Balmer, 2007, 2013; He & Mukherjee, 2009; Melewar, 2003, 2008; Melewar & Karaosmanoglu 2006; van Riel & Balmer, 1997). In particular, He (2012) underlined the importance of understanding managerial perspectives and intent, specifically on trying to determine on which of the many corporate identity elements leaders anchor. He (2012) went on to state the need for understanding the extent of integration among these elements. In addition, Brown, Dacin, Pratt & Whetten, (2006) summarize the interdisciplinary work on identity, intended image, construed image and reputation as four viewpoints describing managers' perspectives of interactions between a focal firm and its stakeholders, with two that are particularly relevant here: "who are we as an organization?", mental associations about the organization held by organizational members and "what does the organization want others to think about the organization?", mental associations about the organization that organization leaders want an important audience to hold, of which customers are one of the most important.

A Corporate Identity Congruence analysis should include all the elements that are part of a corporate identity. Flint, Signori & Golicic (2018) identify five categories of corporate identity elements, presenting sixteen signaling vehicles that can be adapted to the dairy industry: product characteristics (product attributes, packaging, label); marketing processes (digital media, printed collateral, interpersonal interactions, events, architectural design); operations (production and operations); supply chain management processes (network structure, relationship management); and organizational characteristics (firm location, organizational structure and employee skills). Corporate identity-related messages, be they leadership communications, printed collateral, stories, digital manifestations, visual imagery or behaviors, can be thought of as signals to the marketplace.

The context chosen for this research is the Italian dairy industry, which is fragmented with many product-oriented smaller farms (Confente & Signori, 2016). The dairy industry holds an important role in the Italian food market, with a revenue of 15.9 billion euros (ISMEA, 2017). Milk comes mainly from small farms that represent the majority of the producers. Big companies are only a few, operating on a large scale. Then, most farms are located in the Northern and Central Italian regions. Cheese represents the main final product of milk and only a small portion is delivered to retailers to be sold as fluid milk products. Over the last few years, the consumption of fresh milk and its supply have been increasing together with consumer pricing (Madau, Furesi & Pulina, 2016). The dairy farms are not benefitting from these higher consumer prices, due to buying power of intermediaries. This situation could be related to the growing presence of market power along the supply chain, which comes from a high concentration of industrial firms and retailers (Sckokai, Soregaroli & Moro, 2013). In fact, Pieri (2013) demonstrates the presence of only eight industrial firms, that control 20 per cent of the Italian market; four of them, the largest, produce 13 per cent of the total milk.

In the last few years, the global dairy industry began to face three problems: even though dairy goods represent an important source of nutrients for humans, nutritional experts keep emphasizing a balanced lighter diet which reduces the amount of dairy products consumed

(Sonesson & Berlin, 2003); second, because producing and distributing these products have a critical impact on the environment (Palmieri, Forleo & Salimei, 2017), in particular on resource reduction and gas emissions (Gonzalez-Garcia, Hospido, Moreira, Feijoo & Arroja, 2013, in Palmieri, Forleo, & Salimei, 2017), environmental sustainability is becoming increasingly critical (Glover, Champion, Daniels & Dainty, 2014); and third, meanwhile global corporations continually rely on digital media for communicating with all stakeholders, with consumers becoming less sensitive to traditional media and seeking more relations and experiences even for convenience goods (Confente & Signori, 2016).

Objectives and methodology

This digital Corporate Identity Congruence analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity. The digital focus is part of a larger research design, composed of three main stages, based on a mixed method, multidisciplinary approach.

The overall research design involves multiple studies: phenomenological interviews with top managers of 7 case studies (Yin, 2009); nutritional and chemometric analysis on dairy products of 20 dairy farms; corporate identity congruence meaning based analysis, with a particular focus on digital communication. The main analysis method is a meanings-based analysis on Corporate Identity elements (Flint, Signori & Golicic, 2018), using NVIVO to capture meanings in transcripts and other elements of the corporate identity. This research involves three different studies:

1. Study 1= "Who they are", identification of corporate identity main meanings.

    Adopting a case study method protocol (Yin, 2009), the first study aimed to collect information on "who they are", in particular trying to capture through personal interviews (1-2 hours long) the main meanings top managers were choosing for their corporate essence. He (2012) underlined the importance of understanding managerial perspectives and intent, specifically on trying to determine on which of the many corporate identity elements leaders anchor.

    The sample is composed by 7 firms of the Italian dairy industry (see Table 1 for sample description), all located in Vicenza province. A case study is a medium size company, producing asiago cheese, fresh cheese, aged cheese, butter, yogurt, milk (interview with the general director). B and C are small size lowland companies. B produces asiago cheese, ricotta and milk (2 interviews with the cooperative's president and with his two secretaries). C produces asiago cheese, caciotta cheese and fresh cheese (interview with the cooperative's president and managing director). D is a micro alpine company, which produces asiago cheese, caciotta and ricotta (2 interviews with the CEO and family owners). E and F are large size companies, producing milk and fresh and aged cheese. E is located in an alpine environment (interview with the marketing manager), while F in the lowland (interview with the general manager). G is an alpine large company, producing fresh and hard cheese, and butter (interview with the CEO and owner).

    All interviews were transcribed and analyzed with coding within the NVIVO software, searching for meanings on different identity elements reported by senior managers: product characteristics (product attributes, packaging, label); marketing processes (digital media, printed collateral, interpersonal interactions, events, architectural design); operations (production and operations); supply chain management processes (network structure, relationship management); and organizational characteristics (firm location, organizational structure and employee skills). Insights from study 1, related to the main orientation on

production of many companies in the sample, confirmed the need to inspect product (milk) attributes in relation to production systems that were mentioned in corporate identities.

2. Study 2: "What they do", analysis of nutritional profiles.

The purpose of this study 2 was to evaluate how different production systems and seasons can affect milk's nutritional profile of dairy farms located in the Veneto Region (Italy). The trial was carried out on twenty lowland dairy farms (of which, 7 are in study 1 sample) grouped in five feeding systems (fixed effect F) according the main forage of the lactating dairy cows' diet: HMS (high maize silage diet), MMS (medium maize silage diet), GMS (mix of grass and maize silage diet), HGS (high grass silage), HMH (high meadow hay diet). Over the year 2018, the milk was collected in the experimental farms four times (fixed effect S): February (WT thesis, winter samples), May (SP thesis, spring samples), July (SM, summer samples), September (AT, autumn thesis) and submitted to chemometric analysis in order to determine the content of lipid and protein-like nutritional compounds. The fatty acid (FA) profile was determined by gas-chromatography, fat-soluble vitamins were evaluated by HPLC, the N-fraction was detected by using a high resolution mass spectrometry (HRMS), the proximate composition by means of near infrared (NIR) spectroscopy (Nguyen Dupas, Adt, Degraeve, Ragon, Missaoui, Novelli, Segato, Phan & Ouhalal., 2014; Ottavian, Franceschin, Signorin, Segato, Berzaghi, Contiero & Cozzi, 2015; Segato, Galaverna, Contiero, Berzaghi, Caligiani, Marseglia & Cozzi, 2017). Data were submitted to a two-way analysis of variance (two-way ANOVA) by using a general linear model that considered the fixed effects F (feeding system) and S (season of milk production) and their interaction (FxS). The HRMS dataset was also used to perform a principal component analysis, using the software Unscrumbler 10.5 X (CAMO Software AS, Oslo, NO) and Metaboalayst 4.0 (Xia Lab, McGill University, Quebec, CA), in order to discriminate the different feeding systems.

TABLE 1: SAMPLE DESCRIPTION

Company	Chain	Products	Dimension	Foundation Year	Company Type	Market
A	Lowland	Asiago, Fresh Cheese, Aged Cheese, Butter, Yogurt, Milk	Medium	1929	Ltd	National
B	Lowland	Asiago, Ricotta, Milk	Small	1901	Cooperative	Local
C	Lowland	Asiago, Caciotta, Fresh Cheese.	Small	1989	Cooperative	Local
D	Alpine	Asiago, Caciotta, Ricotta	Micro	1900	Farm	Local
E	Alpine	Asiago, Fresh Cheese, Hard Cheese, Butter, Yogurt, Milk, Ice Cream	Large	1954	Cooperative	National and International
F	Lowland	Asiago, Fresh Cheese, Hard Cheese, Butter, Yogurt, Milk	Large	1952	Cooperative	National and International
G	Alpine	Butter, Gran Moravia, Fresh Cheese, Aged Cheese	Large	1784	Ltd	National and International

3. Study 3= "What they say", content communication analysis.

All documents related to case stud firms' communications vehicles were collected and analyzed with NVIVO coding, following the same research method and sample used in study 1, and searching for meanings in communication content related to all of the identity elements (Flint, Signori & Golicic, 2018). Then, the communication analysis separated results for traditional and product offline vehicles (in this industry in particular: flyers, brochures, packaging, labels), versus digital media (in particular, websites, facebook, youtube). Offline and online communication flows were collected and observed for 6 months in 2018.

Results

1. Study 1 findings: identification of corporate identity main meanings.

Thanks to the interviews with the owners and presidents of the seven firms, it has been possible to know more about who they are and who they want to be in the future. Micro and small firms often struggle in communicating all their initiatives and efforts to their stakeholders, and top managers and owners place a lot of effort on personal communication to the marketplace and to their stakeholders. The direct contact with owners and presidents gave to the researchers several important inputs, difficult or impossible to collect from other sources.

Study 1 findings show two groups of main meanings: the first related to the meaning "Natural", including signifiers regarding being natural in general, or directly stressing the natural attribute of milk and the dairy product and production; the second group is "Sustainability", which is composed of many sub-codes, such as environmental, social, economic. Study 1 findings are presented in Figure 1. For more details, the codebook in Table 2 contains details of codes, sub-code descriptions, source (interviews included) and frequency. All coding was originally done in Italian but has been translated here into English.

B, C and D cases could be defined as production oriented. In fact, they all focus their attention mainly on the production of hand-made cheese, composed of natural ingredients, following their own tradition. Moreover, even if sometimes they are not conscious at all about this, they work in a sustainable way, respecting the environment, taking care of cows and helping local communities. All of them have their own shop, a small factory outlet, through which they have a direct contact with consumers. However, despite this, the major part of their production is sold to wholesalers and distributors, with the consequential effect of losing their identity on packaging and labels. E, F and G cases, the largest companies, are focused both on product quality and elements of sustainability and nature. This is demonstrated by a great number of initiatives in terms of environmental safeguarding and social activities that companies undertake. Finally, case A is the only firm that is not aligned with the sustainability trend. In fact, sustainability is considered also in its economic dimension, as a way to save money. The focus of the company is oriented especially towards internal innovations and certifications.

Figure 1 shows the positioning of the seven firms in relation to two attributes: Natural and Sustainability. These attributes confirmed as important to analyze because of their relevance in recent dairy industry trends (Confente & Signori, 2016). Findings for each case study are reported in Figure 1, in which the two main meanings compose a map with four quadrants, enabling to classify four different corporate identity profiles:

- The Nutritionists (upper left quadrant), give more importance to health, quality and nature of the products than to sustainability factors;
- The Healthy and Sustainable Experts *(upper right quadrant),* focus on product quality, nature, healthy consumption and the integration of sustainability in their business;
- The Green Purists (lower right quadrant), want to reach only one major goal of integrating sustainability in every part of their work;
- The Industrialists (lower left quadrant), want to reach high economic goals, by the use of industrial processes and without working on sustainability.

Firms have been positioned in the maps following the NVivo Coding results derived from interviews. Firms have been positioned in Figure 1, based on the extent to which the firms emphasize "natural" and "sustainability" meanings within the interviews analyzed. A greater extent of natural is toward the top, greater extent of sustainability is toward the right. All firms except one are set in the upper right quadrant, which contains "The Healthy and Sustainable Experts", based on top management description of their corporate identities. Different from the others, A is positioned in the lower left quadrant, that includes "The Industrialist". Generally, companies place effort on developing sustainable and natural products, each of them at different levels. Alpine (triangles) and Lowland (circles) graphical distinction is to connect studies 1 and 3, with study 2.

Figure 2: Corporate Identity Main Meanings Map On Interviews Contents
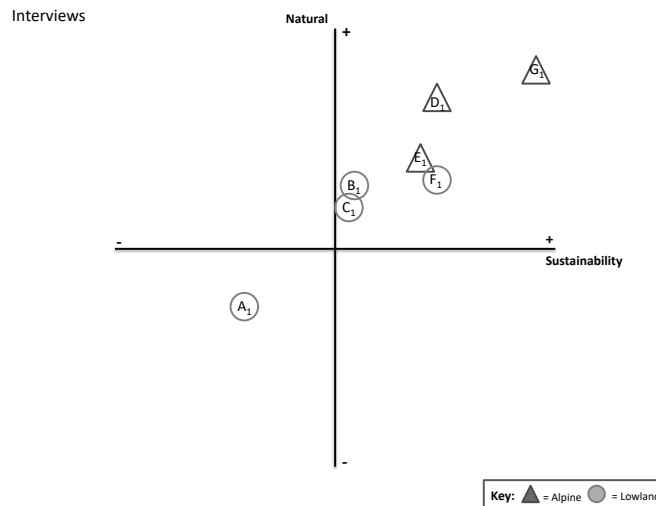
2. *Study 2 findings: analysis of nutritional profiles.*

An evaluation of the nutraceutical value of dairy products could be another challenge aiming at both tracing the dairy chain and assessing their degree of sustainability.

A preliminary analysis of data showed a significant influence of the F (feeding system) effect on the nutritional value of milk even though the variation of data was affected by the interaction FxS. As reported in previously studies (Bernardini, Gerardi, Elia, Marchesini, Tenti & Segato, 2010; Segato, Galaverna, Contiero, Berzaghi, Caligiani, Marseglia & Cozzi, 2017), the substitution of maize silage with high meadow hay resulted in the decrease of the incidence of saturated fatty acids (SFA) and monounsaturated FA (MUFA) and, consequently, in the increase

of the long chain polyunsaturated FA (PUFA). Milk from HGS and HMH was also characterized by a significant amount of CLA (conjugated of linoleic acid) while the incidence of PUFA n-3 remained comparable among feeding systems. Moreover, it was observed a slightly ($P<0.10$) decrease of saturated FA (SFA) along the season that increased the proportion of monounsaturated FA (MUFA) in all the feeding systems, especially in the SM samples. The feeding system thesis did not affect the amount of vitamin A and E (retinol) that, on average, was equal to 6.8 and 12.2 μg *per* g of fat, respectively. These fat-soluble vitamins tended to increase throughout the time of sampling, being slightly higher in the SP and SM seasons. Aside from the effect of experimental factors, what is certainly noticeable is the considerable amount of these two fat-soluble vitamins in milk of the entire experimental thesis that, acting as antioxidant, could play a positive role in protecting the double bonds of unsaturated fatty acid during both milk processing and/or the metabolic pathways related to the human consumption. Considering the reduction of milk production of the HMH thesis dairy cows and the increase of the cost per milk unit, an adequate communication would be necessary to improve the consumers' perception regarding the high nutritional milk quality of this dairy chain (De Nardi, Marchesini, Stefani, Barberio, Andrighetto & Segato, 2014).

The HRMS determination allowed the identification of a complex pattern of N-compounds and other hydrophilic substances in milk and milk-derivatives (cheese, yogurt, cottage cheese, concentrated whey). Several metabolites belonging to the chemical classes of amino acids, organic acids and alcohols such as valine, creatinine, succinic acid, acetic acid, glycerol, citric acid seemed to be potential markers for the classification of the milk and milk-derivatives based on its production system. The accuracy of classification of the feeding systems based on HRMS data was quite correct for HMH samples (hit samples = 0.74), meanwhile it was less frequent for the others thesis (hit samples < 0.65). Compared to milk samples obtained by the use of maize or other fodder silage, the discrimination of HMH-samples was probably attributable to a significant difference in the lipid profile, as highlighted by the wet-chemistry analysis. The outcomes of this study confirm that the use of HRMS coupled with NIR spectral data could be a reliable, chemical-free tool to identify milk from different dairy chains, especially in the case of those from the same season of production (Ottavian, Facco, Barolo, Berzaghi, Segato, Novelli & Balzan, 2012).

3. *Study 3 findings: content communication analysis.*
Study 2 results reveal some strengths on what companies do, in particular some dairy chains producing higher nutritional milk, with important values and product attributes that could be communicated to the market. Study 3 aims to verify if companies' communication is aligned and congruent with what companies are (study 1), and with contents discovered on what companies are really doing (study 2).

Table 2 reports findings from the NVIVO analysis of multiple sources. In particular, this codebook highlights that interviews represent an essential source of information, particularly true when researching on small firms. These firms often do communicate all of their identities, activities and values using few corporate identity elements. Table 2 also reports a distinction between offline and online sources. Offline communication sources in this sample are mainly materials related to companies (brochures and flyers) or products (flyers, packaging and labels). Online communication sources are websites, Facebook and Youtube, in particular: websites in

every case; Facebook A, B, D, E, F, G; Youtube E, F, G. Other digital media are not used by firms in this sample.

TABLE 2: CODEBOOK

Name	Description	Source		References
Azienda (Firm)	Elements that are linked to the company in its own.	Case B (Interview) Case C (Interview) Case D (Interview) Case E (Interview, Digital) Case F (Interview, Digital) Case G (Interview, Digital)	10	43
Elementi distintivi (Distinctive elements)	Specific elements regarding particular and differentiating features of companies.	Case A (Interview, Digital) Case B: (Interview, Digital) Case C (Interview, Digital) Case D (Interview, Digital) Case E (Interview, Digital) Case F: (Digital) Case G (Interview, Digital)	14	51
Iniziative (Initiatives)	Elements that concern local initiatives of companies toward communities.	Case A (Digital) Case C (Interview) Case D (Interview, Digital) Case E (Digital) Case F (Digital)	6	17
Packaging (Packaging)	Elements of firms' packaging.	Case A (Product Communication, Digital) Case B (Product Communication, Digital) Case C (Interview, Product Communication, Digital) Case D (Interview, Product Communication, Digital) Case E (Interview, Product Communication, Digital) Case F (Product Communication, Digital) Case G: (Interview, Product Communication, Digital)	10	16
Naturale (Natural)	Elements regarding being natural in general. + Elements that are linked to firm's natural products.	Case B (Interview, Digital) Case C (Interview) Case D (Interview) Case E (Digital) Case F (Digital)	7	12
Malga (Alpine cottage)	Elements regarding the alpine natural environment	Case D (Interview, Product Communication) Case F (Product Communication) Case G (Digital, Product Communication)	3	15
Mucche (Cows)	Elements regarding nature and healthy animals	Case A (Product Communication, Digital) Case B (Interview) Case D (Interview) Case E (Interview, Product Communication, Digital) Case F (Interview, Product Communication, Digital) Case G (Interview, Product Communication, Digital)	12	22
Prodotti **(Products)**	Elements that concern every kind of product made by firms.	Case A (Interview, Digital) Case B (Interview, Product Communication, Digital)	17	105

		Case C (Interview, Product Communication, Material) Case D (Interview, Product Communication, Digital) Case E (Interview, Digital) Case F (Interview, Product Communication, Digital) Case G (Interview, Digital)		
Relazioni (Relationships)	Elements generally referred to relations between companies and their stakeholders.	Case B (Interview) Case D (Interview) Case F (Interview) Case G (Interview)	4	19
Consumatori (Consumers)	Elements linked to relations between companies and costumers.	Case A (Interview) Case B (Interview) Case E (Interview) Case G (Interview)	5	15
Dipendenti (Employees)	Elements linked to relations between companies and employees.	Case A (Interview) Case E (Interview)	2	19
Catena distributiva (Distribution network)	Elements linked to relations between companies and distributors (large grocery stores included)	Case A (Interview) Case E (Interview) Case F (Interview)	4	8
Supply chain (Supply chain)	Elements that give information about the entire firms' supply chain.	Case A (Interview) Case B (Interview, Digital) Case C (Interview, Digital) Case D (Interview) Case E (Interview, Digital) Case F (Interview, Digital) Case G (Interview, Digital)	17	88
Sostenibilità (Sustainability)	Elements regarding sustainability in general.	Case A (Interview, Digital) Case B (Interview, Digital) Case C (Interview, Digital) Case D (Interview) Case E (Interview, Digital, Product Communication) Case F (Interview, Digital, Product Communication) Case G (Interview, Digital, Product Communication)	22	93
Ambiente (Environment)	Elements that concern environmental sustainability.	Case C (Interview) Case E (Interview, Digital) Case F (Interview) Case G (Interview)	8	34
Biologico (Organic)	Elements linked to the "organic" concept.	Case C (Interview) Case D (Interview) Case E (Interview, Digital, Product Communication) Case F (Interview, Digital, Product Communication) Case G (Interview)	9	26

Cooperativa (Cooperative)	Elements associated with sustainability into cooperatives.	Case A (Interview) Case E (Interview) Case F (Interview, Digital, Product Communication) Case C (Interview)	7	22
Sociale (Social)	Elements that concern social sustainability.	Case D (Interview) Case C (Interview) Case A (Interview) Case G (Interview, Digital) Case E (Interview) Case B (Interview)	11	27

Through NVivo, it is possible to show the most recurrent words within the analyzed sources. This tool permits s us to understand what are the most used words and, consequently, what are the most discussed themes. Word counting was not the main purpose of this study, however some findings are reported to highlight some curious results. Measuring word frequencies, the most used word is milk, that is in line with the main theme of the research, that is the dairy industry and their main attention to production. Then, product and products mentions are positioned in second place, followed by cheese. Milk, and related products, are obviously the center of this industry, however firms do not communicate those important attributes, related to nutritional profiles, discovered in study 2 and that could be valued by customers. This note is confirming that communication contains product and production plain descriptions. Another very interesting piece of data is shown in the concepts of "sustainability" and "quality": where sustainability appears more frequently than the word quality. This could mean that these dairy companies are maybe shifting their communication more toward sustainability than quality content. This result is interesting, if we consider that in this industry and context, for many years referring to quality (product or production related) has been the most frequent main topic in small food companies' communication. Moreover, also the location (Vicenza) is in high position, highlighting the importance of the product origin and company location. Finally, only two brand names are tracked in this analysis: it means that only two cases are frequently repeating their brand or company names in their communication, while all the others are not even mentioning their own names in their communication contents.

Figure 2: Corporate Identity Main Meanings Map On Offline Communication
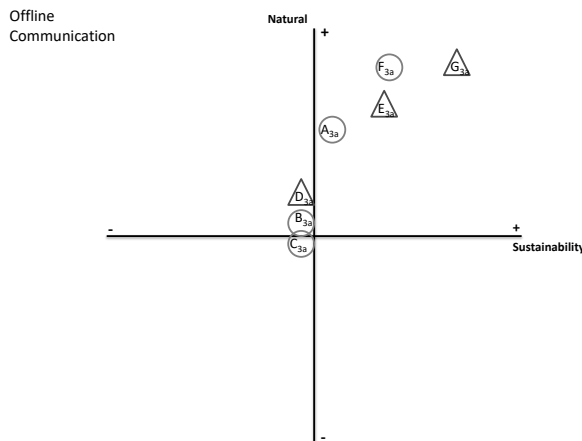
Figure 2 shows results on a map created in the same way as study 1. The positions of seven companies are related to content found in traditional offline product materials. Cases are differently positioned in Figure 2 (based on content revealed in product communication) if compared with Figure 1 (based on content revealed by interviews). These differences show some misalignments. In particular, small firms (B, C, D) do not communicate in an appropriate way their identity and their work, changing position on the map and becoming less natural and less sensitive on sustainability in their communications. At the same time, large companies (A, E, F, G) communicate their identity and work within their product material, appearing sometimes more natural and more focused on sustainability than what they effectively are.

Figure 3: Corporate Identity Main Meanings Map On Online Communication
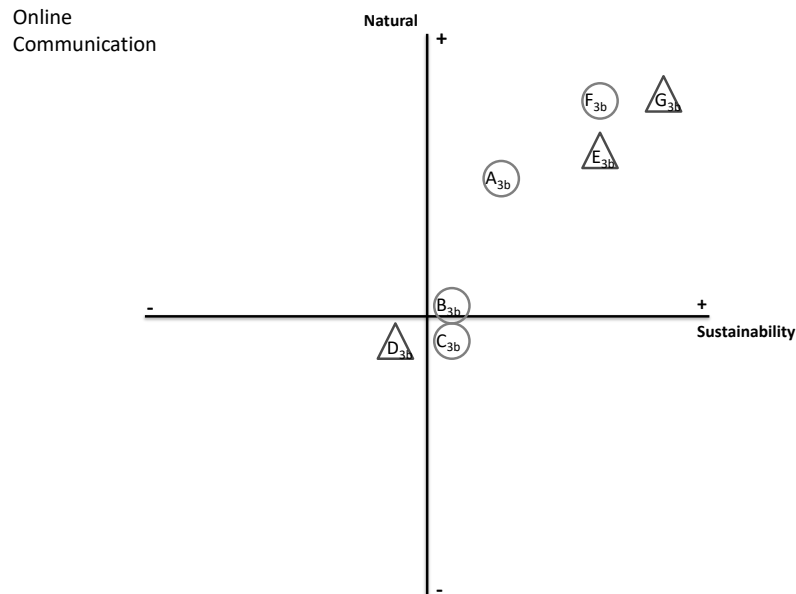
Figure 3 refers to results of case studies' online communication analysis, and positions in the map are directly reporting firms' efforts in communicating the two main meanings of "natural" and "sustainability". Comparing Figure 2 and 3 it becomes more evident that digital content is more focused on sustainability in many cases (a little more for A, B, C; and many more for F). Two cases (E and G) are aligned and congruent in their offline and online contents. Case D does not communicate any natural or sustainable meaning on digital media.

Conclusions

This paper reports important findings from a multidisciplinary mixed method research project. First, the use of some food fingerprints could be a useful chemometric tool that allows for effective product protection and a corresponding increase in economic value of milk and other dairy products obtained by the means of a production system that maximizes the amount of their nutritional traits; this could be communicated to the marketplace. The preliminary results of study 2 evidenced that the identification of qualified biomarkers from the lipid and protein fraction can be an effective chemometric tool to discriminate the dairy chains based on feeding system

characterized by an increase use of maize silage from arable land in comparison with crop from permanent meadow.

Second, what is evident is that medium and large companies are misaligned in who they are, what they really do and what they say. In particular, some of them oversell the sustainability factor. In this case sample, two cases risk be accused of greenwashing (over exposition on sustainability factors on product related communication); and one case masks its industrial profile to the market. The other group of small and micro companies and cooperatives, sometimes fail to transfer their values (nature orientation and nutritional profile) to the market: two cases show communication gaps and untapped market opportunities; one case is the only one that emphasises in its mission a nutritional focus, however it does not communicate it to the market. Focusing on the digital effort, content analyzed reveals that four companies are digitally stressing more on sustainability meanings than in other media (three cases communicate a little more sustainability on digital media; two many more). Only two case studies show a congruent alignment in who they are and what they say.

In conclusion, this research demonstrates a general lack of strategy in dairy firms' communication efforts. Furthermore, cases of the alpine chain do not communicate anything about the higher nutritional value of their products. Misalignments discovered between who firms are, what companies do, and what they say (offline and online) should be considered critical issues. This digital CIC analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity. In particular, if a company is not transferring its core values and actions to its stakeholders, the power (and margins) will remain with distributors, and final consumers will not perceive any differentiation on dairy products and brands. Furthermore, if a company stresses some values in its communication that are not really true, in the future, the market may discover this, creating a high risk for the company's reputation. Top managers should analyze their corporate identity elements to verify the congruence in what they are, what they do and what they say, to be able to align their essence and communication. In particular, digital media should not be considered as simple and casual vehicles, in which greenwashing or false content is allowed. In this research, the majority overstress the importance of sustainability in their social media, compared to other identity elements. Moreover, it is confirmed that in this industry and context, firms do not possess digital communication skills, in terms of media mix, media plans, frequency and content. This research has some limitations, due to the limited sample size. Future research may explore this mixed method approach in other industries and contexts. However, this mixed method study contributes to the corporate identity domain in showing that meanings-based corporate identity congruence analyses can be helpful to highlight new opportunities for companies that want to evolve their digital presence in congruence with their corporate identity strategy.

Aknowledgements

References

Abratt, R. (1989). A new approach to the corporate image management process", *Journal of Marketing Management*, 5 (1), 63-76.

Balmer, J. M., & Greyser, S. A. (2006). Corporate marketing: Integrating corporate identity, corporate branding, corporate communications, corporate image and corporate reputation. *European Journal of Marketing*, *40 (7/8)*, 730-741

Balmer, J.M.T. & Greyser, S.A. (2002). Managing the multiple identities of the corporation. *California Management Review*, 44 (3), 72-86.

Balmer, J.M.T. & Greyser, S.A. (2003). *Revealing the Corporation: Perspectives on Identity,Image, Reputation, Corporate Branding, and Corporate-Level Marketing*. London: Routledge.

Balmer, J.M.T. (1998). Corporate identity and the advent of corporate marketing. *Journal of Marketing Management, 14 (8)*, 963-996.

Balmer, J.M.T. (2001). Corporate identity, corporate branding and corporate marketing: seeing through the fog. *European Journal of Marketing*, *35 (3/4)*, 248-291.

Balmer, J.M.T. (2008). Identity based views of the corporation: Insights from corporate identity, organisational identity, social identity, visual identity, corporate brand identity and corporate image. *European Journal of Marketing*, *42 (9/10)*, 879-906.

Balmer, J.M.T. (2015). Corporate identity, corporate identity scholarship and Wally Olins (1930-2014). *Corporate Communications: An International Journal, 20 (1)*, 4-10.

Bernardini, D., Gerardi, G., Elia, C.A., Marchesini, G., Tenti, S., Segato, S. (2010). Relationship between milk fatty acid composition and dietary roughage source in dairy cows. *Veterinary Research Communications, 34(Suppl 1)*: 135-138.

Brown, T., Dacin, P., Pratt, M. & Whetten, D. (2006). Identity, intended image, construed image, and reputation: an interdisciplinary framework and suggested methodology. *Journal of the Academy of Marketing Science*, *34 (2)*, 95-106.

Cornelissen, J., Christensen, L. T., & Kinuthia, K. (2012). Corporate brands and identity: developing stronger theory and call for shifting the debate. *European Journal of Marketing, 46 (7/8)*, 1093-1102.

Cornelissen, J.P., Haslam, A. & Balmer, J.M.T. (2007). Social identity, organisational identity and corporate identity: towards an integrated understanding of processes, patternings and products, *British Journal of Management*, *18 (1)*, 1-94

Confente I., & Signori P. (2016). Creating value within the dairy supply chain, in Sargiacomo M. (Ed.), *Accounting and Management of the Agribusiness Industry*, McGraw-Hill Education, 159-188.

Dacin, P. A., & Brown, T. J. (2002). Corporate identity and corporate associations: A framework for future research. *Corporate Reputation Review*, *5 (2-3)*, 254-263.

Dacin, P. A., & Brown, T. J. (2006). Corporate branding, identity, and customer response. *Journal of the Academy of Marketing Science*, *34(2),* 95-98.

De Nardi, R., Marchesini, G., Stefani, A.L., Barberio, A., Andrighetto, I., Segato, S. (2014). Effect of feeding fine maize particles on the reticular pH, milk yield and composition of dairy cows. *Journal of Animal Physiology and Animal Nutrition, 98(3)*, 504-510.

Flint, D. J., Signori, P., & Golicic, S. L. (2018). Corporate Identity Congruence: A meanings-based analysis. *Journal of Business Research*, *86*, 68-82.

Glover, J. L., Champion, D., Daniels, K. J., & Dainty, A. J. D. (2014). An Institutional Theory perspective on sustainable practices across the dairy supply chain. *International Journal of Production Economics*, *152*, 102-111.

González-García, S., Hospido, A., Moreira, M. T., Feijoo, G., & Arroja, L. (2013). Environmental life cycle assessment of a Galician cheese: San Simon da Costa. *Journal of cleaner production*, *52*, 253-262.

He, H. & Mukherjee, A. (2009). Corporate identity and consumer marketing: a process model and research agenda*, Journal of Marketing Communications*, *15 (1)*, 1-16.

He, H. (2012). Corporate identity anchors: a managerial cognition perspective. E*uropean Journal of Marketing, 46 (5)*, 609-625.

He, H., & Balmer, J.M.T. (2007). Identity studies: multiple perspectives and implications for corporate-level marketing. *European Journal of Marketing*, *41 (7/8)*, 765-785.

He, H., & Balmer, J.M.T. (2013). A grounded theory of the corporate identity and corporate strategy dynamic: A corporate marketing perspective. *European Journal of Marketing*, *47 (3/4)*, 401-430.

Kennedy, S. H. (1977). Nurturing corporate images. *European Journal of Marketing, 11 (3)*, 119-164.

Madau, F. A., Furesi, R., & Pulina, P. (2016). The existence of buyer power in the Italian fresh milk supply chain. *British Food Journal*, *118*(1), 70-82.

Melewar, T. C. (2003). Determinants of the corporate identity construct: a review of the literature. *Journal of marketing Communications*, *9(4)*, 195-220.

Melewar, T. C., & Karaosmanoglu, E. (2006). Seven dimensions of corporate identity: A categorisation from the practitioners' perspectives. *European journal of marketing*, *40 (7/8)*, 846-869.

Melewar, T.C. (Ed.) (2008). *Facets of Corporate Identity*, London: Routledge.

Nguyen, Thi P., Dupas, C., Adt, I., Degraeve, P., Ragon, M., Missaoui, M.F., Novelli, E., Segato, S., Phan The, D., Ouhalal, N. (2014). Partial characterization of peptides inhibiting *Listeria* growth in two Alpine cheeses. *Dairy Science and Technology, 94(1)*, 61-72.

Olins, W. (1978). *The Corporate Personality: An Inquiry into the Nature of Corporate Identity*. London: Design Council, Gower.

Olins, W. (1995). *The New Guide to Identity*. Aldershot: Design Council, Gower.

Ottavian, M., Facco, P., Barolo, M., Berzaghi, P., Segato, S., Novelli, E., Balzan, S. (2012). Near-infrared spectroscopy to assist authentication and labeling of Asiago d'allevo cheese. *Journal of Food Engineering, 113 (2),* 289-298.

Ottavian, M., Franceschin, E., Signorin, E., Segato, S., Berzaghi, P., Contiero, B., Cozzi, G. (2015). Application of near infrared reflectance spectroscopy (NIRS) on faecal samples from lactating dairy cows to assess two levels of concentrate supplementation during summer grazing in alpine pastures. *Animal Feed Science and Technology, 202*, 100-105.

Palmieri, N., Forleo, M. B., & Salimei, E. (2017). Environmental impacts of a dairy cheese chain including whey feeding: an Italian case study. *Journal of Cleaner Production*, *140*, 881-889.

Pieri, R. (2013). La produzione di latte secondo l'Agea.

Sckokai, P., Soregaroli, C., & Moro, D. (2013). Estimating market power by retailers in the Italian Parmigiano Reggiano and Grana Padano cheese market. *J Agric. Econ*, *64*, 33-53.

Segato, S., Galaverna, G., Contiero, B., Berzaghi, P., Caligiani, A., Marseglia, A., Cozzi, G. (2017). Identification of lipid biomarkers to discriminate between the different production systems for Asiago PDO cheese. *Journal of Agricultural and Food Chemistry, 65*, 9887-9892.

Sonesson, U., & Berlin, J. (2003). Environmental impact of future milk supply chains in Sweden: a scenario study. *Journal of Cleaner Production*, *11*(3), 253-266.

van Rekom, J. (1997), Deriving an operational measure of corporate identity. *European Journal of Marketing*, *31 (5/6)*, 440-422.

van Riel, C.B. and Balmer, J.M.T. (1997). Corporate identity: the concept, its measurement, and management, *European Journal of Marketing*, *31 (5/6)*, 341-355.

Wernerfelt, B. (2014). On the role of the RBV in marketing. *Journal of the Academy of Marketing Science*, *42 (1)*, 22-23.

Yin, R. K. (2009). Case study research: Design and methods 4th ed. In *United States: Library of Congress Cataloguing-in-Publication Data* (Vol. 2).