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Accounting, the 'Art of Interestment' and the 'Good Spokesperson': innovation in action in luxury high fashion (1959–1979)

Massimo Sargiacomo

Department of Management and Business Administration, G.d'Annunzio University, Pescara, Italy

ABSTRACT

This study investigates the adoption of technological innovation, as well as the rise of accounting, management and organisational innovative practices in the luxury high-fashion industry, basing our analysis on the iconic brand Brioni. Grounded in the prior literature on history of innovation and customisation, we develop a socio-technical analysis of the relocations, technology innovations and production transformations in 1959–1979. In this period – recalled by fashion historians as full of technical, production and process innovations – the company built a production consumption chain organised around the strategy of demand-pull product customisation, by adopting and adapting technologies imported from elsewhere, and deployed by the work of hundreds of local tailors and seamstresses in tandem with external foreign trainers. We argue that the continuous 'Art of Interestment', which sustained technological, product and process innovations, was promoted by a team of 'judiciously chosen Spokespersons', who helped to translate company policy into practice, thus expanding production, controlling costs, reducing the manufacturing cycle and improving quality. The socio-technical investigation illustrates the pivotal role played by the rise and spread of innovative accounting and labour practices for customers of variable taste, size and geometry. In a related manner, the study highlights the building of a new architecture of performance management and quality information systems which, in tandem with changing accounting practices, helped to sustain Brioni's success across the observed two decades.

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Introduction

This study examines the adoption of technology innovation, as well as the rise of accounting, management and organisational innovative practices in the seldom explored luxury high-fashion industry. Our site of investigation is Brioni, the iconic Italian high-fashion brand. Grounded in the prior literature on fashion, innovation and product customisation, we consider the early years of Brioni's 'Roman Style' Factory (1959–1979). This period was an important one for Brioni, as it built a demand-pull production-consumption chain organised around the strategy of high-profile product customisation and adopted and

CONTACT Massimo Sargiacomo  msargiacomo@unich.it

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adapted diverse technologies. After several years of experimentation, tests and checks, the latter enabled Brioni to expand production, deploy innovative organisational and performance management practices and build up a cost accounting apparatus for customers of variable size, taste and geometry.

50 There are three motivations for the study. The first is to understand the luxury high-fashion men's apparel industry, which is a multi-billion dollar industry dominated by highly recognisable Italian-based brands such as Armani, Brioni, Kiton and Zegna. Admittedly, much time has passed since 2001 when Anthony Hopwood showed for the first time on his personal Web site a clear interest in studies on the fashion business. His view still has
55 much to commend it and the recent call for papers on 'Accounting for Luxury' (*Accounting History Review* 2017) encourages further research in this area. Indeed, despite the ongoing interest on fast fashion (Ferdows, Lewis, and Machuca 2004; Jeacle 2015) and departments stores for standardised masses (Jeacle 2003; Jeacle and Carter 2012), the luxury high-fashion industry remains largely unexplored. The related companies have a reputation
60 for producing exquisite quality and innovative bespoke, made-to-measure and off-the-rack suits, blazers and trousers (Merlo 2011). However, while the companies and the garments themselves are highly recognisable to discerning consumers, little is known about the associated production and selling processes. We know, for example, that there are yearly fashion shows to debut new products (Merlo and Polese 2006, 424) and that
65 image and aesthetics are important (Dickerson 2003, 1). At the same time, how these garments are designed, produced and sold remains mostly backstage behind the catwalks of Milan and Rome.

The second and related motivation is to develop a historical socio-technical analysis (Akrich, Callon, and Latour 2002a, 2002b)¹ of the rise and spread of innovation in accounting, management and organisational practices, at the same time either investigating the external and endogenous factors in action in the luxury high-fashion area, and identifying the leading change actors. Although the theoretical underpinning of ACL has triggered much interest in the analysis of organisational and management innovation (e.g. Orlikowski 2007; Orlikowski and Scott 2008), to date it has been almost completely neglected
75 in accounting research. While Gendron and Barrett (2004) offers a notable and seminal exception in the application of the ACL approach to contemporary professional projects, we are not aware to date of prior studies in accounting history. Importantly, none exist which investigate the development of accounting, management and organisational innovative changing practices inside high-fashion companies.² Our choice to build up a socio-technical exploration enables us to highlight that the success of an innovation depends on
80 its capacity of 'interesting an increasing number of allies', thus elucidating 'the existence of a bundle of links which unite the object to all of those which handle it' in the investigated socio-economic environment (Akrich, Callon, and Latour 2002a, 205). Accordingly, this study seeks to examine and explain how accounting, labour, management and organisational-change practices (e.g. the change from a make-through sartorial system into a continuous flow of a bundle/batch system) have been initially adopted through the 'Art of Interestment' (idem, 202), and how they have been progressively spread into the company before they were transformed into a success, after several years of uncertainties and experimentations. Our socio-technical 'radiography' (Akrich, Callon, and Latour 2002a,
85 204) will also unveil and identify the network of 'Good Spokesperson' (Akrich, Callon, and Latour 2002b, 217) and main representatives of the leading teams who, playing different
90

roles, intervened day-by-day to give shape to the organisational, management and accounting changes.

95 The third motivation is to examine and understand explicitly the micro-accounting techniques which emerged in our research site, as well as their interrelations with the changing management and organisational practices and external environment. Therein, it is important to underline that – from the one side – to date the scant historical and contemporary accounting literature has focussed on department stores and retailers (Jeacle 2003; Giertz-Mårtenson 2012; Jeacle and Carter 2012), fast fashion (Ferdows, Lewis, and Machuca 2004; Jeacle 2015), children’s garments (Busco et al. 2012), low-price apparel sweatshops (Neu, Rahaman, and Everett 2014), as well as on a combination of creative teams of a sample of *prêt-à-porter* and fast-fashion companies (Davila and Ditillo 2017), thus leaving luxury high-fashion companies completely unexplored.³

100 The next two sections discuss the literature on the history of innovation and customisation, at the same time portraying the pivotal features of the luxury high-fashion industry and recapitulating the basic tenets of the theory of innovation that underpin our study. We then illustrate the research design and the methodology used for data gathering and analysis, followed by the analysis of the different relocations, technology innovations and production transformations at Brioni from the end of 1959 to the end of 1970s. We next investigate the rise and spread of accounting and labour practices for customers of variable taste, size and geometry in the new plant, along with illustrating the architecture of performance management and quality information systems. The subsequent section provides examples of product and process innovation fiascos at Brioni to complete the socio-technical investigation of the success of this luxury high-fashion company. A brief recapitulation and final observations conclude the study.

115 **Innovation, customisation and luxury high fashion**

120 From the incandescent light bulbs onwards, the literature on the history of innovation has explored a wide range of products, processes, organisations and societies (Utterback 1996). Danneels, for example, states that product innovation is the engine of organisational renewal and, indeed, survival (2002, 1095). Similarly, Khazanichi, Lewis, and Boyer (2007, 1) argue that innovation is the overriding responsibility of today’s managers. As product categories reach maturity, product innovation becomes even more important, helping to both market the new product to current customers and to maintain pricing levels (Adner and Levinthal 2001, 623). This focus, in part, helps to explain why the length of time between the launch of new product models has continued to shrink. In a related manner, innovation has been deemed crucial to the success and survival of almost every type of production-consumption chain (Brown and Eisenhardt 1995, 343; Drucker 1998, 3). The compression of the product life cycle has arguably made timely product and process innovation an even more important production-consumption chain activity (De Luca and Atuahene-Gima 2007, 98).

130 Innovation refers to the process of arriving at a new product, idea or way of doing things (Abernathy and Utterback 1978; Revellino and Mouritsen 2009, 342).⁴ Product innovations run the gamut from small incremental changes to an existing product to the radical imagining, design and production of something totally new. Likewise, process innovation may consist of small changes to existing manufacturing processes, perhaps

for cost-saving reasons, all the way to the development of a totally new process. While product and process innovation are analytically distinct, in practice the two are intertwined in that new products often require new manufacturing processes and the discovery of process innovations often foment the development of new products (Abernathy and Utterback 1978, 41; Drucker 1998, 5).

At its simplest, innovation involves a variety of chain participants given the intertwining of the acts of production and consumption (Ernst 2002). This involvement, however, depends on the product customisation strategy of the production-consumption chain and the associated chain configuration (Pine 1993; Pine, Victor, and Boynton 1993; Kotha 1995; Gilmore and Pine 1996). Yet 'whereas 10 years ago, mass customisation might be viewed as a promising manufacturing strategy especially for niche market producers, it is now a dominant form of production' (Fogliatto, da Silveira, and Borenstein 2012, 22). Prior research proposes that product customisation is a key factor in that it influences: (1) the organisation of design, assembly and distribution activities; (2) the triggers and sites of product and process innovation; and (3) what and how enabling technologies are used. Product customisation strategies vary from *pure standardisation* to *pure customisation* with intermediary points of *segmented standardisation*, *customised standardisation*, and *tailored customisation* (Lampel and Mintzberg 1996). Each of these customisation strategies incorporates various degrees of end-purchaser input into the design, fabrication, assembly and distribution activities (Duray et al. 2000). Traditionally, the more intensive ones have tended to be accomplished more readily using job or batch forms of production rather than line forms (idem, 621). However the successful use of component modularity has allowed some production-consumption chains to achieve customised standardisation with a line process (Tu et al. 2004). While research by Fogliatto, da Silveira, and Borenstein (2012) documents the increasing interest in, and use of, product customisation strategies, high-profile customisation implementation failures, such as that of Levi Strauss (cf. Salvador, De Holan, and Piller 2009), illustrate that these strategies are not necessarily easy to implement (Pine, Victor, and Boynton 1993, 111; Lampel and Mintzberg 1996, 28). Moreover, in order to stimulate the search for product and process innovation in diverse sites of investigation (von Hippel 2009) the customisation literature emphasises the need of enabling technologies (Fogliatto, da Silveira, and Borenstein 2012, 22), including accounting (Bouwens and Abernethy 2000). Before turning to these accounting aspects, we briefly consider the context of luxury high fashion.

The world of luxury high fashion differs from other fashion segments (Bruce, Daly, and Towers 2004, 155; Jeacle and Carter 2012, 4; Jeacle 2015) and from consumer products more generally. Luxury high-fashion items, more so than most other products, are marks of distinction (Kaiser 1985; Engel, Blackwell, and Miniare 1993; Frings 2004). Brioni men's suits, in common with Louis Vuitton bags, stand at the apex of the high-fashion industry price zone (Solomon and Rabolt 2004, 8), and represent goods targeted at consumers eager to wear brand names synonymous with elevated social status (Veblen 1899, 94–95; Brown and Rice 2001, 50).

Appearances to the contrary, the high-fashion apparel industry is quite complex. The emergence of the Italian luxury high-fashion industry occurred in the period immediately after the Second World War (White 2000, 5). This period saw the first fashion show 'introducing Italian clothing production to international markets' (Merlo and Polese 2006, 424), the emergence of Rome as the 'Hollywood on the Tiber, where major American studios

could produce films cheaply' (idem, 429) and a series of movies showcasing Rome and an Italian style of dressing and being. As Merlo and Polese note, 'haute-couture ateliers, especially those in Rome, became famous for dressing American actors and actresses both on and off the set' (2006, 429). While the aforementioned media attention increased the visibility and desirability of Italian luxury high-fashion items, it was still necessary to produce the actual clothing items on a scale large enough to be profitable (Merlo and Polese 2006; Merlo 2011).

For luxury high-fashion men's apparel companies that wanted to survive, the recipe for success, in hindsight, was seemingly simple: produce an exquisite suit that customers desired in a reasonable amount of time and at a cost where the company could make a profit (Mora 2006, 344). This strategy, however, required these firms to control product costs, reduce production times and to continue to innovate (Mora 2003a, 2003b) – activities that were more difficult to achieve. For example, the production of tailored high-fashion goods is labour intensive, requiring the continuous work of teams of skilled tailors and seamstresses and where 'labour cost represents a significant portion of cost of many garments' (Abernathy et al. 2004, 3). Furthermore, luxury high-fashion apparel is defined by the use of high-quality fabrics in tandem with infinite customisation with the consequence that the quantity of fabrics and required finishings may number in the thousands (Berta 1989, 30; Brown and Rice 2001, 101). Finally, in contrast to mass production clothing, the sartorial process of cutting, embroidering and sewing items makes the launch of labour-saving technology and product automation more difficult (Dickerson 2003, 182–83).

As our analysis highlights, Brioni accomplished this feat by moving from a *pure customisation* strategy to something closer to a *tailored customisation* strategy – a strategy built around what Brioni referred to as a 'factory of tailoring'. It also successfully incorporated end-purchaser input into three interrelated sets of product and process innovation activities: updating a 'timeless' item such as a men's business suit or dinner jacket to both reflect current fashion trends and push the envelope of tailoring possibilities (Mora 2006, 336, 344); adapting and modifying garments to non-standard body shapes so that bespoke items look and feel 'better' than an off-the-rack suit; and reducing the final product cost and production times, while maintaining the same external appearance of garment quality and artisanal craftsmanship (Mora 2006, 349). Admittedly, innovation activities within luxury high-fashion apparel production are quite different from those found within the ready-to-wear fashion sector, not only in the relative emphasis placed on process versus product improvements but also in the sites where these activities take place (cf. Ferdows, Lewis, and Machuca 2004; Cammett 2006; Jeacle and Carter 2012). With these premises, we portray innovation activities related to accounting, management and organisational changes and practices, which occurred in Brioni through long painstaking processes, involving multiple actors and the concurrent actions of endogenous and external factors. In the next section, we elaborate our theoretical framework to elucidate and analyse the outlined changes.

The key to success in innovation: the 'Art of Interestment' and the 'Good Spokesperson'

Admittedly, the prior literature on innovation, mostly in the 1950s and 1960s, has illuminated the different interpretative lenses which shed light on how innovation emerges

and is disseminated throughout factories, organisations and society (e.g. Woodward 1958; Harvey 1968; Hickson, Pugh, and Pheysey 1969). In particular, the preceding dominating research has underlined that the success of an innovation depends upon its intrinsic properties – seen as an exogenous but autonomous, stable and predictable driver of organisational change – which was prompted by the Schumpeterian entrepreneurial stereotype (1934, 1939). Accordingly, the inspiration and passion of talented men and women, through their genial comprehensive skills, trigger any innovation, whose propagation – *per se* – is depicted by well-known logistical curves (Mansfield 1961), without any evaluation of the particular endogenous and external context where the innovation was going to be inserted and (successfully) disseminated.

Nevertheless, the acknowledged limitations of the aforementioned perspective, which supposes a clear separation between the innovation-diffusion model and its socio-economic environment, have paved the way to novel interpretative theories, which have contrasted and extended prior ideas and thinking. One of the first research studies on a new way to examine the development of technological innovation is perhaps the ‘case of Porvair’ in the footwear industry, where Gibbson and Littler (1979) provide a comprehensive portrayal of the risks and uncertainties that have to be faced when undertaking radical innovation, thus highlighting the network of interrelations between them which may drive to a success or failure in innovation projects. In their concluding comments, the authors underline that:

Innovation ... can be more accurately regarded as a process consisting of a series of decisions taken in the context of previous decisions and changes in external information as seen against some projected future horizon. This may not seem a very surprising statement but unlike the analytical frameworks provided by the many variations on the linear model of innovation or the exponents of the ‘climatic decision’ models of innovation, it does provide a method of structuring a complex situation in which purposive and intelligent actions try to cope with the technical and marketing uncertainties which constitute so much of the innovation process ... with decision-making being a series of ‘never-ending steps’ in which ‘continual nibbling is a substitute for a good bite’. (1979, 24)

Building on studies such as that of Porvair and completely denying the possibility that innovation *per se* may be prompted and diffused due to its intrinsic properties and the genial ideas of brilliant entrepreneurs, Madeleine Akrich, Michel Callon and Bruno Latour at the end of the 1980s elaborated their own theory on the key to success in innovation, later published on the *International Journal of Innovation Management* (2002a, 2002b). Notably, Callon (1986) and Latour (1987) had been known primarily for their studies on technology and science which launched actor-network analysis. In their novel theoretical elaboration with Akrich, they start from the premise that any technology reification should be avoided, while an innovation ‘in the making reveals a multiplicity of heterogeneous and often confused decisions made by a large number of different and often conflicting groups, decisions which one is unable to decide a priori as to whether they will be crucial or not’ (Akrich, Callon, and Latour 2002a, 191). Just as their analysis seeks to unpack the ‘obscure story or relocation’ (idem, 192) of a micro-computer firm in the new company premises of North Carolina (drawing on the volume by Kidder 1982, *The Soul of a New Machine*), our analysis of Brioni offers the opportunity to unveil what really occurred during the re-location from Rome to the new facilities in the Abruzzi region. It may happen that stories of successful innovation are definitely less

rosy than predicted and do not depend at all upon the simple stroke of genius of the entrepreneurs, as 'decisions are made in the middle of uncertainties amongst which it is practically impossible for a sure case to be guaranteed' (Akrich, Callon, and Latour 2002a, 194).

275 When raising their plea for a novel theory of innovation, ACL build also on the continuous flow method and its adaptation after the re-location (idem, 2002a, 195). Following their impetus, we examine *if* and *how* the new manufacturing technologies as well as the labour and organisation procedures needed to be adopted and adapted after a painstaking process in an environment impregnated by uncertainties of the future, where a
280 number of alliances should be constructed with a series of actors. Therein, it may happen also in High-Fashion companies that 'the adoption of an innovation ... goes through a series of decisions which depend on the particular context within which the innovation is to be inserted' (idem, 202), and the resulting 'cost advantage can only be, at best, the expensively obtained result of a series of decisions imposed with difficulty'
285 (idem, 196).

In ACL's theoretical analysis, much emphasis is placed on the understanding of 'what do consumers actually want', as well as on the need of achieving good relationships with 'customers of variable geometry', which are 'key-protagonists' (Akrich, Callon, and Latour 2002a, 199–200). These latter ideas and metaphors chime with the main features of
290 high-fashion companies working on a demand-pull basis, with customers spread throughout the globe having different sizes, measures, and fabric and model tastes. Accordingly, from the one side, the ACL tenets may push towards the understanding of how in the 1960s–1970s this strong relationship with customers was mirrored in the new and purposely-built accounting, management and organisational control apparatus. On the other
295 side, in the production-consumption chain of a demand-pull high-fashion made-to-measure company, multiple internal customers must be identified and unpacked, thus disclosing pivotal acting and intermediating roles in the changing accounting, management and organisational practices.

300 With such premises, a brief portrayal of what ACL named the 'Model of Interestment' follows:

The model of interestment sets out all of the actors who seize the object or turn away from it and it highlights the points of articulation between the object and the more or less organised interests which it gives rise to. The result of such a description is a socio-technical diagram which combines two categories which we are prone to separating: the technological analysis
305 which limits itself to a description of the object per se and its intrinsic properties; the sociological analysis of the object i.e. the environments within which it spreads and effects. If we want to distinguish between these two lines of analysis, we refrain from understanding the reasons behind the failure or success of an innovation. As for the socio-technical analysis, it positions itself at the exact place where innovation is situated, in this hard-to-grasp middle-ground where technology and the social environment which adopts it simultaneously
310 shape each other. (Akrich, Callon, and Latour 2002a, 205)

Importantly, along with these premises, ACL also add that the cases of successful implementation of innovation reveal that 'it is a necessary to have a consenting management which is not discouraged by the desperately negative results of the first experiments, and must be permanently convinced of the long-term interest of the process' (Akrich,
315 Callon, and Latour 2002b, 208). In a related manner, 'the research of a compromise,

which is nothing more than the name for the will to succeed, occurs through experiments which take place everywhere and through successive iterations' (idem, 212). In our research exploration, interpreting Edison's lessons we suggest that 'the fate of innovation, its content but also its chances of success, rest entirely on the choices of the representatives or spokesperson who will interact, negotiate to give shape to the project (idem, 217).
320 Accordingly, also in the high-fashion scenario, it may happen that the success of a comprehensive innovation project derives from the identification and recruitment of a team of 'judiciously chosen spokesperson' (idem, 222) who, acting as effective intermediaries, will be able from different angles and perspectives, and through different actions, interactions and adaptations, to translate the 'economic strategy' (idem, 221) into practice.
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We use these insights to orient our analysis, highlighting how technological innovation, human beings and novel accounting, management and organisational practices were concurrently in action in the luxury high-fashion industry of the 1960s–1970s; a socio-economic scenario infused with uncertainties of the future, scepticism for the risks of fiascos, and mystery as to the global success of the new factory premises project.
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Research design and data analysis

This study is part of a larger long-term project, where we have accessed for the first time the doors of the Brioni 'Roman Style' Factory in Penne, Italy. For this analysis, we began our interviews in 2008 (see Sargiacomo 2008) and completed them in 2012. We initially were granted access to the factory by the then Chief Executive Officer, who had been Legal Procurator of the Factory since 1959. Our initial request letter gave assurances of confidentiality and enclosed a description of the research aims and the business documentation we were seeking, as well as of the relevance of our project for academia and practice. The author was personally acquainted with several members of the senior management team and the major company shareholders. This connection helped to minimise the impact of social distance with the interviewees (Bourdieu and Balazs 1999, 608).
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Before beginning our research, we obtained an organisation chart of the actual structure by divisions and functions, and the plan of the factory. Considering that we would build a part of our research on the collective memories of prior key actors of the company operating in different areas, we then asked for a list of names and organisational responsibilities of senior staff who retired in the previous 20 years, to ensure that we interviewed pivotal individuals of the 1960s–1970s. These charts, maps and lists guided our initial choice of informants in the accounting and operations offices, which was supplemented by other key individuals in the manufacturing tailoring spaces.
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Retrospective interviews with key informants allow us to elucidate information about historically salient practices, including the social relations within which the practices were embedded, and the participants' understandings of the practices (Tyson 1996; Napier 2006; Giertz-Mårtenson 2012). Loft (1986), for example, uses retrospective interviews to examine the emergence of costing practices during the 1920s, while Hammond and Streeter (1994), Hammond, Clayton, and Arnold (2009) as well as Annisette (2000) utilise this approach to study professionalisation processes of the 1960s. The use of retrospective interviews assumes that key informants are not only in the best position to understand the context of certain practices (cf. Bertaux and Kohli 1984, 226) but also that
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the long-term, patterned nature of the practices allows participants to remember the details of the practices (cf. Bourdieu and Balazs 1999).⁵

365 Semi-structured, open-ended interviews with staff were conducted from 2008 to 2012, with subsequent interviews undertaken to gain additional insights into what had emerged as key events and issues through our analysis of the initial transcripts. We anticipated that this approach would enable us to develop an understanding of the emergence of the 'Roman Style' high-fashion innovation changes, which were not limited to a snapshot based exclusively upon the recollections of Brioni's most senior managers.

370 The empirical material was collected from a variety of sources: (a) data from 'Roman Style' 1960–1970 published official reports; (b) internal documents, guidelines and surviving accounting and business reports and pictures from the Brioni archives located in Penne and in Rome; (c) press articles of the time; (d) published case studies and volumes, as well as national and international volumes on the history of fashion and tailors; and (e) data from the State Central Archive in Rome (<http://acs.beniculturali.it/>);
375 (f) 37 semi-structured interviews of past company key actors, which were deliberately spread across four years. During this time we were never denied access to any document or staff whom we wished to interview.⁶ The references provide summary information about the participants and the interviews.

380 The starting point was a series of conversations with senior managers at Brioni. Senior management was understandably proud of how they had helped Brioni grow from a tailoring workshop located in Rome to a multi-million dollar company and iconic fashion brand. In their recounting, the movement to a factory style of production, albeit a style of production that was consistent with the demands and opportunities inherent in the men's luxury high-fashion apparel market, was the basis for their growth and success.
385 These conversations both provided us with an entrée and motivated us to examine this particular moment of organisational, management and accounting innovation change. Each interview was transcribed at the end of each day, and then analysed in order to identify the key themes and link particular quotes to our narrative. The three basic innovation areas and respective coding schemes focussed on the socio-material practices linked to the organisation, cost-accounting and performance management system of the company.
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For the interviews, we adopted a conversational approach based on the research concept of active and methodological listening (Bourdieu and Balazs 1999, 609–619). We encouraged participants to reminisce about their daily activities, for example, what they did and with whom they interacted. In some cases, we prompted participants to tell us about the documents that were present on the shop floor or in the marketing area and what happened with the documents. We also prompted them to tell us what happened when there were problems. Our aim was to gather 'both factual and interpretive information' (Bertaux-Wiame and Thompson 1997, 13). For interview participants who were present when Brioni moved from Rome, we also asked about this decision. With these questions, we were seeking to understand how the interview participants articulated the rationales for accounting, management and organisational changes, as well as the salient changes which they subsequently enacted (cf. van de Ven and Huber 1990, 213).
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405 Over the course of the data gathering and analysis phases, we conducted multiple interviews with the aforementioned organisational participants.⁷ We adopted a multiple interview approach as a way of eliciting a greater depth of detail and understanding from these key informants (cf. Bourdieu 1996, 30). The introduction of a temporal space

into the interview process allowed the informants to reflect on the questions and to organise their thoughts and recollections thereby resulting in more detailed recollections of the factual material as well as more nuanced interpretations (cf. Kvale and Brinkmann 2009). It also helped us, as researchers, to reflect on what we were hearing and to probe more deeply into the issues (cf. Bourdieu 1996, 30). We continued to conduct interviews throughout the data gathering and analysis phases until we reached a point of saturation where we were not hearing anything new and where we literally ran out of follow up questions (cf. Bertaux and Kohli 1984, 226). This concept of saturation is similar to that which guides cross-sectional snowball sampling techniques (ibidem).

In 2010–2011, we also conducted a series of participant observations and interviews on the shop floor. Although these contemporary data are not the focus of the study, they provide a contextual anchor point to use in understanding and interpreting the previous practices. In effect, the interviewees confirmed the collected memories of the prior key actors interviewed, as these recollections had been shared from the time they were initiating their career either in the accounting, and in the performance management as well as in the organisation of the quality system (i.e. Mr. Antonio Bianchini, who was Co-CEO of Brioni in the 2007–2011 period, in the early 1990s started his career in the Administrative office working closely with Mr. Lucio Marcotullio, who shared with him his memories). Besides the noted confirmations, we also triangulated the chronology of key events with external sources. These sources included the files related to the ‘Roman Style’ Factory enshrined at the Central State Archive of Rome; the international volumes on history of high fashion and tailors (i.e. Giorgetti 1995; Chenoune 1998; Vergani 2004), as well as published case studies (i.e. Bell 2003). These latter materials are not only relevant *per se* to confirm the main content and chronology of the oral testimonies of key actors, but also reinforce them, as they provide several more interviews reported inside – focussed also on the 1960s–1970s periods – which chime with our socio-technical exploration of the main accounting, management and organisational innovative changes occurred in Brioni. We are confident that the mentioned triangulation overcomes the potential bias linked to the recollections of prior actors, at the same time providing a comprehensive view of what happened in the 1960s–1970s time span.

Relocation(s), technology innovation(s) and production transformation(s)

Historical background of the Rome Workshops

Brioni was established immediately after World War II, opening a high-fashion retail outlet that was served by an adjacent tailoring department. The founders sought to use new colours and fabrics (Giorgetti 1995, 24) as a way to produce a high-fashion item that was distinctive from the conventional grey, English-style of men’s suits (Byrde 1979; Boyer 1990). The limited-liability company was funded and directly managed by its two founders.⁸ Nazareno Fonticoli directed sartorial style, models and fabrics, while Gaetano Savini was responsible for sales, purchases and public relations. Initially, the workshop and showroom were situated in a good location in central Rome.⁹ Thanks to the interviews with the now retired master tailor Checchino Fonticoli, as well as the archival documents, a reconstruction of the layout and organisational process of the time follows.¹⁰ Three head cutters cut the fabric pieces that later would be sewn by a single tailor on a single work

455 table. Once cut, the pieces of fabrics on the clients' measures, each tailor was assigned a
suit to build up together with a seamstress, who was sitting to the left of the tailors on pre-
assigned chairs and completely devoted to complementing his tasks. Thus, each pair com-
pleted the entire manufacturing process, following a make-through sartorial system (Carr
1985), including ironing.¹¹ At the end of the manufacturing process, the head cutters
inspected each product completed by the tailor-seamstress teams. In the event of faulty
garments, the relevant tailor-seamstress team would be asked to rework the product
until sartorial excellence was reached. Apart from the preliminary division of cutting vis-
à-vis the rest of the manufacturing phase, there were no divisions of work in the sub-man-
460 ufacturing sections or islands, as each pair of tailors/seamstresses was required to make an
excellent entire suit on a single table from start to finish.

465 From an accounting and performance management perspective, the Roman archives of
the company reveal rudimentary bookkeeping for the exchange of items on cash or credit
(there are lists of debtors and creditors; cash reports; salaries; and partial reports on a
charge-and-discharge inventory system). No evidence exists of accounting for individuals,
groups, or activities. The archival sources suggest an absence of costing and productivity
artefacts.¹² No performance measure was linked to the hourly/daily/monthly labour cycle.
Indeed, no records were kept regarding the productivity of tailor-seamstress pairs, and
470 tailors and seamstresses had a flat-rate payment system, whereby their salary was paid
every 15 days (RCA). The salary could be increased only for overtime labour, which was
common in the second half of the 1950s (Checchino Fonticoli interview).

475 As the Hollywood glitterati¹³ and other high-profile international clientele started to
wear Brioni, demand skyrocketed and the company was forced to open a temporary tai-
loring shop located on nearby Via Balduina (Vergani 2004, 54), replicating the production
processes of the first location, at the same time devising a new plan for the future of the
company.

480 *Act 1: Innovation in the first relocation and technology transplantation- adaptation*

485 At the end of the 1950s, Brioni decided to move to Penne, Abruzzi and the new joint stock
company legally came into existence on 28 December 1959. The novel premises were
initially chosen in Via San Francesco 1 –located in the centre of Penne – and the new
factory opened on 25 August 1960. The decision to change locales coincided with a
moment of turbulence within the men's fashion industry. External demand for hand-
made suits was decreasing given the increasing popularity of lower-cost, ready-to-wear
products (Quant 1966; Kidwell and Christman 1974; Pulos 1988). The producers them-
selves were concerned about the change of consumers' preferences, as well as rising pro-
490 duction costs relative to the small number of suits made (Merlo 2003, 167; 2011, 348).
These events and concerns formed the backdrop for a re-consideration of production
methods. Brioni master tailor Fonticoli 'often discussed with his tailor colleagues the
need to modernise the workshop, to cut down on production time without reducing
the quality, but on the contrary improving it', thus prompting the idea of 'setting up a
495 factory of tailoring, something very different from the off-the-peg industry' (Vergani
2004, 81). Nevertheless, while at the end of the 1950s general plans had already been

developed, 'the problem of where to find management models still, however, existed' (Giorgetti 1995, 84).

The decision to construct a factory of tailoring required senior management to think about the technological and physical attributes of the factory itself (cf. Gagliardi 1990, 26). The new production space needed to facilitate lower garment costs, both immediately and over the longer term, at the same time enhancing productivity and granting the highest quality standards. More or less by chance, a comparative model for the factory had been found after an industry show in Sweden, where 'in the immediate post-war years, with its larger, publically founded companies' the country 'was at the forefront of men's fashion production' (Giorgetti 1995, 86). Nevertheless, in the Brioni case, we discussing not only the transfer of 'management processes', or 'production thinking', but also the purchase of the technology and machinery in use in Swedish factories, and the deployment of a 'serial production' process previously tested in Sweden and transferred to Penne. We have found a confirmation of this contention in the Rome National State Archive (RNSA), where in a bundle containing the official request of the joint stock company to receive national contributions by the Institute for the Economic Development of the Southern Italy, it is argued that¹⁴

Fonticoli and Savini ... very well know tailors ... towards the end of 1959 have constituted the Roman Style, installing a fashion factory in rented locales situated in Penne, having machineries purchased from a Swedish company, the MAGNI ACTIEBOLAG of Boras ... (RNSA 1966, 2).

AQ1

Giorgetti also underscores the pivotal relevance of technology transplantation from another country, and production method adaptation in the Italian high-fashion scenario:

The Swedish method contributed ideas about how to organize the manual labour and how to sustain the automatic principle of certain recurrent movements ... These labour theories were studied and adapted by the Roman Style master tailors ... this led to the move of traditional tailors to a tailoring system, divided into ... hours of organized manual labour. The original Swedish system had been adapted to take into account the tradition of Italian craftsmanship and retain the human factor innate in any artisan work. (Giorgetti 1995, 87)

The above-noted circumstances resonate with ACL who underline that 'the new technology, rather substituting the old ones, come to feed it off' (2002a, 195). In a related manner, the socio-technical analysis unveils that 'the movement of adoption is a movement of adaptation' (Akrich, Callon, and Latour 2002b, 209). Importantly, the Swedish entrepreneur Magni was also appointed to the 1959–1961 Board of Administrators, thus providing support and knowledge sharing and training on production practices in the technology transplantation and serial production adaptation in Penne.

The RNSA documents reveal some endogenous and external factors which drove the future relocation to novel factory premises. Indeed, the joint stock company founders argue that

[T]he actual production is uncomfortably done in some narrow, distant and inappropriate rented locales (a three-floor building and ground floor) where circa 150 personnel is employed, between employees and blue collars ... the activity is done ... in a temporary, experimental and now entirely inadequate site, adapted in locales in the Commune of Penne ... Only when the international success has provided a broad confirmation of the considerable prospects of the product, and once all the innumerable difficulties and initial

uncertainties have been overcome, the writers have asked for the contributions provided by the law for investments in Southern Italy ... (RNSA 1966, 2–5)

Indeed, between 1961 and 1965, due to the first technological transplanted, the experimentation/adaptation of the Swedish serial production methods, and the human shop-floor activities, the number of suits increased dramatically from 4830 in 1961 to 21,123 in 1965, recording a blue collar increase from 53 in 1961 to 156 in 1965 (PCA).

With the initial risks and uncertainties overcome after only a few years, the actual inadequacy of the production locales and the growing orders, the founders asked for a large capital contribution to relocate the production locales to a new purposely built factory. Admittedly, the 1960s and 1970s are regarded as the high point of the Italian interventionist state in that large public grants without security and long-term loans at a reduced rate were available to enterprises that opened new factories in southern Italy (Felice 2008). From the government's perspective, a high-fashion factory was viewed as a means to support the local Abruzzo economy but also as a way to preserve the Italian artisanal tradition in master tailoring. The business plan submitted to the government emphasised these aspects, stating that the new factory would have a capacity much higher than that of the prior production facilities, and would employ many more tailors and seamstresses (RNSA 1963–1966). As the business plan illustrates, the movement to a factory style of tailoring was a *potentially* significant process improvement (Pisano 1997, 3), one that, if implemented 'properly', would also increase the productivity of the tailors and seamstresses.

Act 2: Innovation in the second relocation and continuous technological improvement

Interpreting the RNSA files, the founders provided the following arguments for the modern factory.

Our application under examination is referred to the broadening, through the transfer, of a factory for the production of jackets, trousers, entire suits, tuxedos and men's overcoats to the Contrada San Salvatore in Penne. In order to permit the realisation of such a plan, ISVEIMER [i.e. the Institute for the Economic Development of the Southern Italy] has allowed ... a funding equal to L. 200,000,000 ... The numerous and growing orders, which the company is not able to meet entirely, have persuaded the promoters to construct a modern factory, planned by a well-known Milanese architect expert in the field, where all the working departments may find comfortable and rational arrangement (RNSA 1966, 2–5).

In our view, the idea of 'modern' per se, alluded either to the new architectural style and to the innovation content that the novel factory ought to have contained through the transfer and rationalisation of the prior existing arrangements. In a related manner, the recruitment of the 'architect expert' in the field hints to the fact that the company – betting on its future – had engaged the services of a well-known and experienced professional, who previously had completed projects of other factories and buildings. Indeed, Brioni chose Renato Bazzoni. One of the best-known Italian architects at the time, Bazzoni had previously designed the Sealup factory¹⁵ (a prestigious firm which made outerwear worn at the time even by Jackie O) and a skyscraper in Via Pirelli, Milan, at the time, one of the first Italian examples of modern glassy, luminous and open architecture.

As noted by Marcotullio,¹⁶

590 [A]t first we thought of building a new factory in the historic city walls and therefore the architect Renato Bazzoni carried out various cadastral surveys within the town. However, there were several reasons that brought us to build the new plant outside the historic walls; for example there was the cost of the project, the possibility of extending the premises by adding new space-blocks in the short-term future according to the hopefully improve of demand, and the easiest connection with the main roads. Besides these technical reasons there was also another important issue behind this decision, and that was that both the owner and myself were not only intent on creating a functional company but also in creating something that was eye-catching for those passing though Penne; so it was both an external and internal issue. We did not have the old factory concept in mind, our idea was to have a huge tailoring laboratory organised industrially, which should also be aesthetically impressive. (Marcotullio interview)

600 While this research phase lasted some time, it was finally decided to relocate well outside the boundaries of the historical city walls of Penne. The juxtaposition of a modernist tailoring factory located outside and above the medieval town of Penne arguably provided a similar monument to the aesthetics, beauty and importance of the Italian high-fashion industry. In this regard, the industry demanded an organic and holistic aesthetic where both the process of making the garments and the final garment itself were seen to be beautiful (Vergani 2004).

605 The internal factory layout also had to be aesthetically pleasing, in a way that made for a more efficient continuous work flow and sustained interaction and hence knowledge sharing, yet at the same time easing future management and organisational procedures. Indeed, according to the former CEO, the decision to establish internal open spaces for the production processes, without a physical partition of the factory space, was made for the following reasons.

615 The spaces should be open to satisfy multiple needs. As we discussed with Mr. Bazzoni, we needed a factory where creativity had to be inspired daily by the working environment, and we thought that open spaces together with light would stimulate the creativity of talented tailors and seamstresses. Indeed, open spaces were aesthetically impressive and concurrently maximised the flow of light from the big windows that we also put on the perimeter walls of the factory. Open spaces made it easier for supervisors of each team to get information from their team and from other teams in the bundles' supply chain, and concurrently rendered easier the advancement of batches and access of materials from one section to another one. Furthermore, open spaces were needed for the mobility of the so-called 'flying workers' between the different teams.

620 This quotation echoes the literature on architectural modernism and workspace design (see, for example, Becker and Steele 1995; Steelcase Inc. 2000; Florida 2002) in that the internal space of the factory was intended to simultaneously facilitate manufacturing activities, be aesthetically impressive, and encourage collaboration among tailors and seamstresses. Innovation in the novel design worked in tandem with the further strengthening of the technology to be infused in a factory of tailoring. Therein, Nazareno Fonticoli on 4 January 1967 underlined that

630 ... Through the deliberation n. 6045 of 21.11.1966 the company has obtained the last instalment from the Treasury (i.e. ISVEIMER) ... the firm which since 1959 has operated in narrow and inappropriate rented locales, has transferred the company in a new and purposely built factory where all the working departments find comfortable and rational

allocation ... I hereby solemnly declare to the Treasury for the Extraordinary Works for the Public Interest of Southern Italy of Rome (i.e. ISVEIMER), to not divert from the planned use, at least for a five-year span since the date of the control finalising (ex art.12, Law 26/6/65 n. 717) the machineries and equipment installed in the Factory that I legally represent. (RNSA 1967)

AQ2

Importantly, annexed to this last declaration, which followed the request no. 6371 solicited by the company on 18 May 1966, is the 'List of the new purchases of machinery and equipment as installed in the factory built in Contrada San Salvatore in the Commune of Penne'. We compared this list to the prior list of equipment and machinery already present in the prior production locales, and later transferred to the new site. Our primary sources show a clear demarcation, and step-by-step addition of new technology to the existing ones, either coming from Sweden and purchased in Italy or elsewhere. The new technology was supposed to be tested in the new factory, and machinery and equipment were added to those already adopted and adapted from Sweden. This process, again, chimes with one of ACL's main tenets, that 'to adopt an innovation is to adapt it' (Akrich, Callon, and Latour 2002b, 209).

The year 1966 witnessed another bet on the future with the launch of the so-called 'gradation system of sizes'. An Anglo-Saxon technical-geometric system (e.g. Poole 1927; Popkin 1929) already deployed by US and European ready-to-wear companies, it was yet to be applied to high-fashion (Giorgetti 1995). This system was intended to facilitate the development of a series of high-fashion sizes starting from a basic set of attributes (e.g. erect, sloping or prominent stomach; square, normal or sloping shoulders; etc.) as it had previously worked successfully in the *prêt-à-porter* industry, with no loss of the sartorial features of the garments.

Act 3: The final production transformation(s)

The above portrayed period of experimentation associated with the launch of technological innovations drove a continuous transformation of the prior tailoring pipeline. To do so, an experienced manager, Gianfranco De Matteis – a 'Good Spokesperson' –, had been recruited in 1968 with responsibility for the manufacturing and time-and-methods processes. According to De Matteis,

... after several years of tests and checks, and search of integrations and adjustments of the technological innovations with the new factory premises and tailors and materials at work, the final manufacturing processes [see Figure 1] were organised into cutting, jacket and trousers departments, which were, in turn, subdivided into numerous manufacturing sections or islands. The process began with the pattern development, cutting and bundle preparation for jackets, trousers or other items. Once the materials were cut and bundled, they moved to either the jacket department or trouser department. (De Matteis interview)

The main difference between the work flow for jackets versus trousers was the number of artisanal steps: the number of steps for classical trousers was roughly 100, whereas the number of steps involved in the making of a single jacket was on average around 200 (Ball, Fairclough, and Ruckman 2001; Brown and Rice 2001, 101). The serial production and new methods adapted and introduced into the factory attempted to make visible the main sources of variances in labour and materials (De Matteis interview) which,

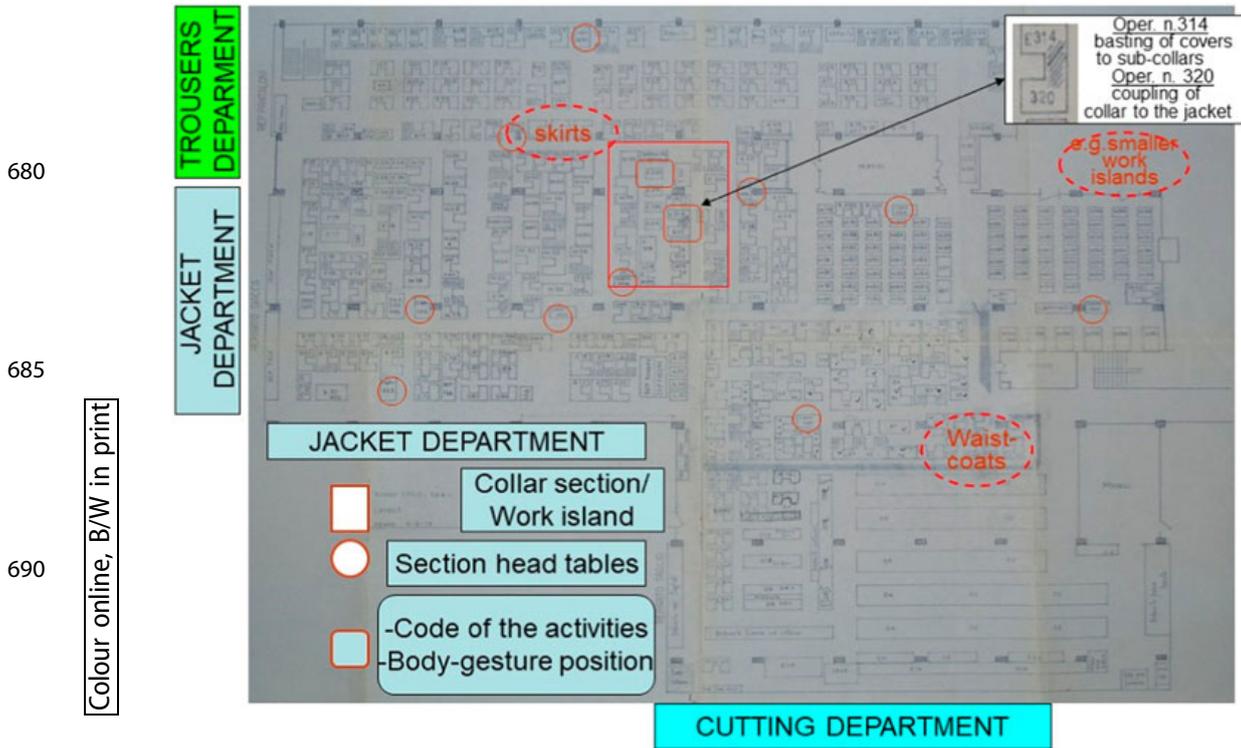


Figure 1. Shop-floor organisation. Source: Penne Company Archive.

notably, greatly affected the costs of luxury high-fashion suits, and were deemed to be partly responsible for the disappearance of most of the 1950s Italian high-end ateliers (Giorgetti 1995; Merlo and Polese 2006; Merlo 2011). The changes also had the effect of dividing the production space into different activity groupings and making the labour activities, which were occurring within each of the different work spaces, visible (cf. Miller and O'Leary 1994; Carmona, Ezzamel, and Gutiérrez 2002).

The preceding description and figures suggest that the organisation of the shop floor followed a serial production process through a batch-production model in which batches of a particular product would enter into production and then flow through each of the different activity areas (Cooney 2002, 1135).

Therein, it is also important to add Marcotullio's insights.

The spaces have been designed and reengineered by the Architect Bazzoni in accordance with the production procedures and control that we wanted to launch. Take for example the trousers department: till 1971 it was positioned on a corridor, having the final test and reparations sections separating it from the jacket department. Together with Bazzoni we had agreed that every 2 years we might have added an extra 2 production blocks in relation to the production volumes, operational procedures and the company's dimension. For example in 1976, unlike the 1966–71,¹⁷ several production departments extended and moved to new areas built on the left wing which was very different to the previous layout. Other than this the company's perimeter had also distinctly increased, and we could dedicate one specific area to special manufactured jackets like tuxedos or Saharan jackets. The final test and reparation sections were also moved elsewhere and did not remain at the borders of trousers/jacket departments. There was a continuous search and adjustments of spaces for granting new efficiencies, production cycles optimisation, and quality guarantees. (Marcotullio interview)

With such premises, it is possible to argue that what happened in the Roman Style 'laboratory' – and narrated in this section – highlights that the economies of space rested 'on the potential to physically integrate the new technology with the old one, that is a case of **organising** the movement of plant and materials or redefining the operational stages' (Akrich, Callon, and Latour 2002a, 195). In a related manner, it emerges that

... innovation takes shape through ... phases ... [that] are conscientiously mixed up. It is an imbroglio from which successive shapes emerge which materialize, through interposed technical choices, the result of all previous compromises i.e. of all of the successful 'interessements'. In this schema, innovation continuously transforms itself according to the trials to which it is submitted i.e. of the 'interessements' tried out. Each new equilibrium finds itself materialized in the form of a prototype which concretely tests the feasibility of the imagined compromise. (Akrich, Callon, and Latour 2002b, 213)

In the very first years from the start of re-location(s) and technology transplantation, the system should have offered a more efficient regimen for measuring, cutting and assembling suits without losing the sartorial character of each garment. In order to achieve better results from the introduction of the mentioned Anglo-Saxon technical-geometric system on sizes, a textbook by Pizzuto (1962) had been distributed in the factory. Also, during the early 1970s the company engaged as a consultant a well-known tailor from Abruzzi, Zopito Costante, who had assisted US ready-to-wear companies in the implementation of the 'grading system'. Importantly, Costante gave weekly lessons in stock sizes and industrial techniques applied to tailoring and pattern making to Penne tailors, including Checchino Fonticoli, Master Tailor at Brioni and nephew of the founder Nazareno (Vergani 2004, 96), thus confirming – again – that the technology transformation/adaptation needed much time to work, experimentation and training from key actors. Annual production levels more than doubled between 1965 and 1970 as did the number of tailors and seamstresses working on the shop floor. By the end of 1969, for example, Brioni was producing more than 43,000 suits and employing more than 400 shop floor staff (PCA).

The preceding shows how the thinking of the business idea, the relocation in different locales, the continuous research for technology transplantation/adaptation/addition and even the design of the new factory through a professional expert in the field were the responses of senior management to a market arena permeated by mystery and uncertainties, as well as subsequent experimentation and tests in a changing high-fashion scenario. Indeed, as demonstrated by history, high-fashion companies which did not clearly decipher the external and endogenous pressures disappeared from the market in a few years. For example, the formerly built up French '*Groupe des Cinq*' (1956), consisting of Bardot, Camps, Evzeline, Socrate and Waltener, which was 'created to promote men's "high-fashion", in 1968 ... disintegrated in the face of competition from the *new prêt-à-porter* houses, led by designers such as Pierre Cardin' (Giorgetti 1995, 67–68). In a related manner, in the Italian scenario, by the end of the 1960s, the majority of ateliers which had participated in the 1951 fashion show had failed (Merlo 2011, 348). These failures were attributed to changing consumer-style preferences, the emergence of unexpected price elasticity, and increasing costs – changes with which many high-fashion companies were unprepared to deal (Merlo and Polese 2006, 429).

The decision to enact a factory of tailoring was a potentially innovative decision – although infused with risks and uncertainties, as unveiled by our primary sources. Yet it still needed to be put into practice and survive as a long-term economic strategy. We next turn to how accounting, management and organisational innovative changes sustained the success of the new and purposely built ‘Roman Style’ Factory.

Accounting and labour practices for customers of variable taste, size and geometry

The rise of new accounting and labour practices

In preparing to move to the new factory of tailoring, senior management was cognisant of the need for more accounting. The business plan, for example, contained projections regarding the number of suits that the new factory was expected to produce and the number of personnel to be employed to achieve this outcome, along with rudimentary costs and calculations on both a labour-hour and tailoring-activity basis. As noted earlier, Brioni had hired shortly after its move to Penne, a professor of accounting and a Penne resident as its legal procurator. He was given the responsibility for developing and implementing ‘suitable’ accounting and calculative practices within the factory, as well as for the general management of the company (Marcotullio interview).

Importantly, in the early years of the new ‘Roman Style’ factory, the Fonticoli’s and the tailor colleagues’ concern about the need ‘to cut down the production cycle’ while ‘not reducing the quality’ of the garment (Vergani 2004, 81) was translated into an internal company policy document, which stated that

[T]he common target to achieve is that to ameliorate the ‘Production Cost’ of each of the section areas. However, it has to be ameliorated without minimally altering the quality, as in our specific case it is a pivotal element to maintain/sustain sales levels; considering that our Company bases its existence on the production of highly qualified suits, realising in an industrial manner the same traditional suit made by a ‘tailor’ in his own shop. Accordingly, also the ‘Quality’ factor/variable should be evaluated. (PCA 1970)

According to the top management of the time, the three measures (i.e. costs, production time, quality thresholds) were the three main indicators to measure the overall innovations introduced in the factory. From the 1970s, the company started to roughly measure them in the new factory plants. Based on these premises, we highlight in this section the emergence of new accounting and labour practices which had to work and sustain the pursued effectiveness of the relocation in the new factory in tandem with the technological innovations. In the subsequent section, we focus on quality and performance management practices.

In terms of materials, an annual charge-and-discharge system for inventory (Penne Company Archive), both for luxurious fabrics and for exclusive subsidiary materials, was developed, providing precise reports of the fabric/subsidiary material consumption and their average costs. The company built an A-Z price-based classification for each Spring-Summer and Autumn-Winter season, as reported in Table 1. Indeed, as seen earlier, the serial production changes permitted the firm to track the materials introduced into each of the manufacturing spaces (see Figure 2) as well as the labour activities that were occurring within the space (Marcotullio interview). Labour activities were also

Table 1. Cost based fabrics and stock classifications and grouping re. 1977 Spring-Summer and Autumn-Winter fashion seasons.

Series	fabric up to £	Spring-Summer 1977 (£)	Autumn-Winter 1977 (£)	per metre	
815	A	3000	4000	"	
	B	3600	5000	"	
	C	4200	6000	"	
	D	4800	7000	"	
	E	5400	8000	"	
	F	6000	9000	"	
	G	6600	10,000	"	
	H	7200	11,000	"	
820	I	7800	12,000	"	
	L	8400	13,000	"	
	M	9000	14,000	"	
	N	9600	15,000	"	
	O	10,200	16,000	"	
	P	10,800	17,000	"	
	Q	11,400	18,000	"	
825	R	12,000	19,000	"	
	S	12,600	20,000	"	
	T	13,200	21,000	"	
	U	13,800	22,000	"	
	V	14,400	23,000	"	
	Z	15,000	24,000	"	
	ZA	15,600	25,000	"	
	ZB	16,200	26,000	"	
830	ZC	16,800	27,000	"	
	L. 600 more per series	L. 1000 more per series	"	
	Series	stock up to £	Spring-summer 1977 (£)	Autumn-Winter 1977 (£)	per metre
	S.1	"	3600	6000	"
	S.2	"	4800	9000	"
	S.3	"	6000	12,000	"
	S.4	"	7200	15,000	"
835	S.5	"	L. 1200 more per series	L. 3000 more per series	"

Source: Penne Company Archive, Lucio Marcotullio personal booklet.

shadowed, with the company beginning to track labour costs. These changes allowed Brioni to introduce seasonal collection budgets in the early 1970s such as the one shown in Table 2 (Penne Company Archive).

Budgeting was based on different production pipelines, such as cotton, normal and special jackets (these latter were usually tuxedos, or Saharan jackets) using an average

Table 2. Budget of complete suits, re. different tailoring cycles and fabric series, Spring-Summer 1977 men's collection (Italian £).

SEASONAL COLLECTION	Spring-Summer 1977			
Tailoring Cycle Series	special (£) (m)	normal (£) (m)	cotton (£) (a/b)	
850	Fabric	25,000	25,000	10,000
	Subsidiary material	10,000	9000	3000
	Direct Labour	64,000	53,000	35,500
	General expenses	20,000	18,000	12,000
	Commissions on sales	7000	6000	3600
	Total Costs	126,000	111,000	64,100
	PRICE LIST	140,000	122,000	73,000
	Mark-up	14,000	11,000	8900
855	Total Labour hours (Direct)	h. 18(17)	h. 15(14)	h. 10(9)

Source: Penne company Archive, Lucio Marcotullio personal booklet.

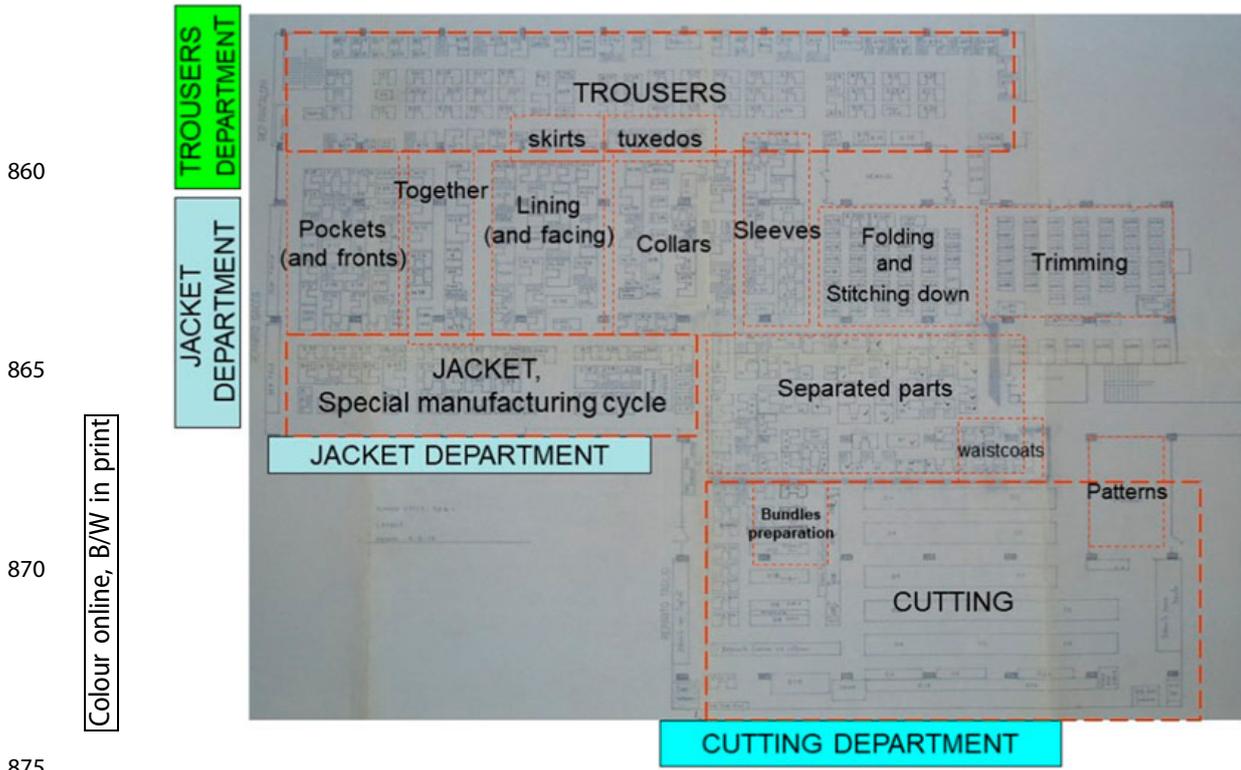


Figure 2. Shop-floor product divisions. Source: Penne Company Archive.

880 fabric choices (i.e. 'm' was the most commonly selected fabric for normal and special jackets separate pipelines; 'b' was the most common fabric for cotton made suits), while budgeting was a priori deployed for the average '50' size (Marcotullio interview). The prior CEO also reminded us that the early years in the factory were a tremendously busy time in that everyone was trying to work out and iron out the details of the factory style of tailoring. This individual recalled that the majority of his time during this formative period was spent on developing, experimenting and putting into practice a series of accounting artefacts that tracked the flow of materials and labour and associated costs across the shop floor ... but it took a long time to fuel their introduction and let them work (Marcotullio interview). He concluded this thought stressing that

890 [Mo]st of the Tailors and Seamstresses hired in the Roman Style Factory were coming from their own tailoring shops in Penne and in the surrounding areas, and were not familiar at all in being controlled by anyone. Creativity, sartorial talent and innovations were pivotal resources for the factory that should not be stifled and, on the contrary, should be encouraged. (Marcotullio interview)

895 This response is consistent with Amabile's (1998) view that improper accounting controls can impede innovation, although it is apparent that accounting and labour documents were obviously a part of the activities of fabricating given that they both shadowed and calculated about the processes of fabrication done multiple times (Hatch and Mowery 1998). As Revellino and Mouritsen (2015, 35) imply, innovative consequences are sometimes the result of the intertwining of two sets of routines – the routines of manufacturing coupled with the routines of calculating about these manufacturing routines.

900

Accounting and labour practices for customers of variable taste, size and geometry

As recalled by the new 'Roman Style' factory Business Plan, 'all the production is done on a demand-pull basis' (RNSA 1966, 3). Accordingly, product customisation via the involvement of boutiques and high-end retail stores in the design process was the basis and defining feature of Brioni's selling and production strategies. Accounting artefacts helped to connect together design and fabrication activities; however it was the formal inclusion of end purchasers in the design process that not only introduced different perspectives and variation into the process but also encouraged product and process innovation. Like other luxury high-fashion apparel companies, Brioni used a global consumption chain coupled with a demand-pull system of production (Dickerson 2003, 140). The burgeoning demand was both constructed and satisfied via a chain of luxury clothing boutiques and high-end department stores spread from Los Angeles to Tokyo and most major metropolitan areas in between. A sales team consisting of several master tailors and other support staff visited each of the stores to decide on the store's upcoming collection, either by organising an internal preview fashion show, or by bringing pre-collection sketches with annexed proposed fabric and accessories.¹⁸ Figure 3, for example, illustrates the famous Celanese 1963–1964 pre-collection. The above mentioned visits took place at least 12 months before the targeted seasonal collection.¹⁹

The master tailors prepared for these meetings by working up several new models/designs that reflected their sense of where fashion was moving and that incorporated



Figure 3. Celanese-Brioni Collection. Source: Rome Company Archive. See also Giorgetti (1995, 120–121).

some of the new fabrics and colours which were being introduced to meet changing customer tastes. A single collection had several models (such as the Brioni Barberini Jacket) and each was the subject of a number of variance typologies. Production variances could relate to one slit or two slits in jackets. Fabrics could be knitted, striped, checked, and so forth. Fabric variances might affect the actual cost of a garment in different ways from the cutting to the ironing stage of production – the standard consumption for the average size 50 (which, as noted earlier, was taken as the reference point) did not sufficiently reflect the different variables linked to the high-fashion suits. For example, given that cashmere shrinks after washing, a tailor would hand-cut more fabric for a single jacket than usual. By contrast, when a tailor hand-cut silk, he knew that it would expand after a wash, and accordingly, he would cut less fabric than usual. The colour chosen for a garment might also have affected the actual cost of the jacket, as the lighter the fabric the less time required to work it compared with dark fabric. Further, fabric with a small micron diameter required more time to work it. Hence, Spring/Summer collection production cycles tended to require more time to craft garments than the Autumn/Winter cycles. The size of the jacket also could generate variances, particularly in relation to materials consumed (Fonticoli interview).

Given that the budget in the new plant was launched for each season and for all model/designs on the standard size of 50, the scope for *a posteriori* actual consumption to depart from *a priori* consumption is great. Reports began to circulate inside the factory, after the study of the actual fabric consumed for two-piece garments of various sizes during the 1970s, taking as a point of reference the so-called regular tied-up fabrics. Considering the wide range of Brioni's customers from the USA to Africa, Europe, the Middle-East, China, Japan and Australia, it is easy to understand that fabric consumption could vary – to a great extent – according to the sizes (i.e. from 34"/37" to 59"/62" or, for example, from a single-breasted to a double-breasted garment) (Fonticoli interview). Importantly, even though the size remained the same, fabric and subsidiary material consumption and labour processes and costs might have varied as a result of anthropomorphic differences between men around the world (i.e. height, weight, sloping/square shoulders, prominent/thin stomach, stout, stooping). Also in these latter cases, Brioni began to study and classify the basis of measurements taken from its clients of different nationalities and indicated variances from the standard customer size of 50 (Fonticoli interview).

The gathering of overall information on variable models/designs, tastes, fabrics, sizes and geometry meant that the preliminary prototypes were never completely separate from the financial dimension, in that the master tailors had a very good idea about how much it would cost to produce the garment. The master tailor had a sense of the tailoring operations that would be needed, as well as the cost of the materials (Fonticoli and Marcotullio interviews). Furthermore, the master tailor prepared a costing estimate that would accompany the design prototype to the meetings with the boutiques and retail stores. The master tailor was part of the Brioni team, thus the initial design decisions occurred within the frame of previous design and production activities as understood by the master tailor: stated differently, these design decisions were framed by and embedded within the existing organisational culture and practices (Maier 2014).

The preliminary prototypes along with the costing estimate travelled to the individual retail stores and mediated in-depth discussion among the Brioni representative and the

store-level design and retailing staff. These staff also had a relatively firm idea about what they wanted to see in the new collection since they were attuned to the local fashion scene as well as to what their clients wanted. In these meetings, the participants brainstormed around the prototypes and the costing document. As store staff suggested revisions or even an entirely new design, one of the master tailors would revise the costing numbers and the 'to store' selling price. At the end of this process, an agreement would be reached on the styles, quantities, colours and fabrics of the store-specific new collection. Similar to other apparel fashion settings, product innovation was 'worked out' among a group of participants (cf. Mora 2006, 342; Jeacle and Carter 2012, 740). Furthermore, product innovation was performative (Christner and Strömsten 2015; Revellino and Mouritsen 2015) with accounting documents being a key participant in these performances.

The involvement of external participants in the design process was an important source of variation and, hence, a potential trigger for innovation. Boutique and retail store staff brought different visions, information and knowledge to the design process. While these individuals were also interested in what 'would sell' and for 'how much', the interactions among the participants sometimes briefly escaped the accounting artefacts in that the focus of conversation was on the garment rather than the costing aspects (Fonticoli interview). The focus soon returned to the financial in that the master tailors would counter-check the costing numbers while simultaneously thinking about the different sewing operations, the amount of sewing time needed, and the cost of this time. This said, the master tailors recollected that these moments of product innovation were invigorating in that the suggestions occasionally interrupted the master tailors' ways of thinking about what the new product design should look like (Fonticoli interview). These last memories resonate with ACL theoretical underpinnings, as they demonstrate that 'the model of interestment emphasises the existence of a bundle of links which unite the object to all of those which handle it' (Akrich, Callon, and Latour 2002a, 205).

Not surprisingly, end-user participation at the design phase was not only a source of product innovation but also a source of production complexity. Each batch of products was highly customised, varying not only by retailer but also by country. For example, Giorgetti recalls that 'the 1968 fashion tours included Caracas, Maracaibo, San José and El Salvador, and confirmed that the house would meet success wherever it travelled. ... since South American culture was heavily Europeanised' (1995, 174).

However, when they went to Africa in the same year, they included some 'ethnic' garments. It was the first step towards what, a short time later, would lead to the 'classico-ethnico' style, which came to make up a noticeable part of Brioni's production in the Seventies (ibidem). The latter circumstances invite also reflection on the complexity from the 1960s and 1970s, for global high-fashion players to understand customer tastes, where 'the customer is the king, but of an empire whose boundaries are poorly defined' (Akrich, Callon, and Latour 2002a, 200). This point is especially pertinent if we consider how circumstances were potentially complicated in those decades in the absence of the Internet and quick information dissemination vehicles to gather, decipher, circulate and interpret precise clues on global customer demand.

After the meetings, the preliminary costing document (Figure 4), product sketch with finishing micro-details (Figure 5) were returned to the master tailors and shared with the different section heads in order to discuss the feasibility of the design and to hear

whether any of the section heads could foresee potential problems with the design and/or costing. As it is apparent from primary sources (Figures 4 and 5), even the micro-tailoring details were firstly tracked on the product sketch and later translated on the labour/financial documents. This series of interactions would sometimes trigger a state of challenge (cf. Revellino and Mouritsen 2009, 341), either in terms of design feasibility or the excessiveness of the manufacturing cost. In these moments, the participants would use the product sketch and costing document as the starting point and impetus for discussion.

These interactions tended to follow a common pattern in that someone would raise a potential way of accomplishing the design and/or lowering the costs associated with the design. The section head responsible for the particular sewing operation would then return to the team and ask the team to experiment with the potential design and to sew a prototype. This prototype formed the basis for a conversation among the team members as to the feasibility of the suggested innovation and the amount of time involved. After this conversation, the section head went back to the other section heads to report on the attempted change. This iterative process continued until the section heads were satisfied and then the process of producing the item would commence (Fiore interview).

The preceding example highlights the different moments and forms of involvement of accounting and labour documents. For example, it illustrates how the documents helped to frame the initial design sketches of the master tailor and how the costing sheet travelled with the product sketches to the meetings with store staff. It also shows not only how these artefacts mediated interactions among Brioni staff and store staff but also that

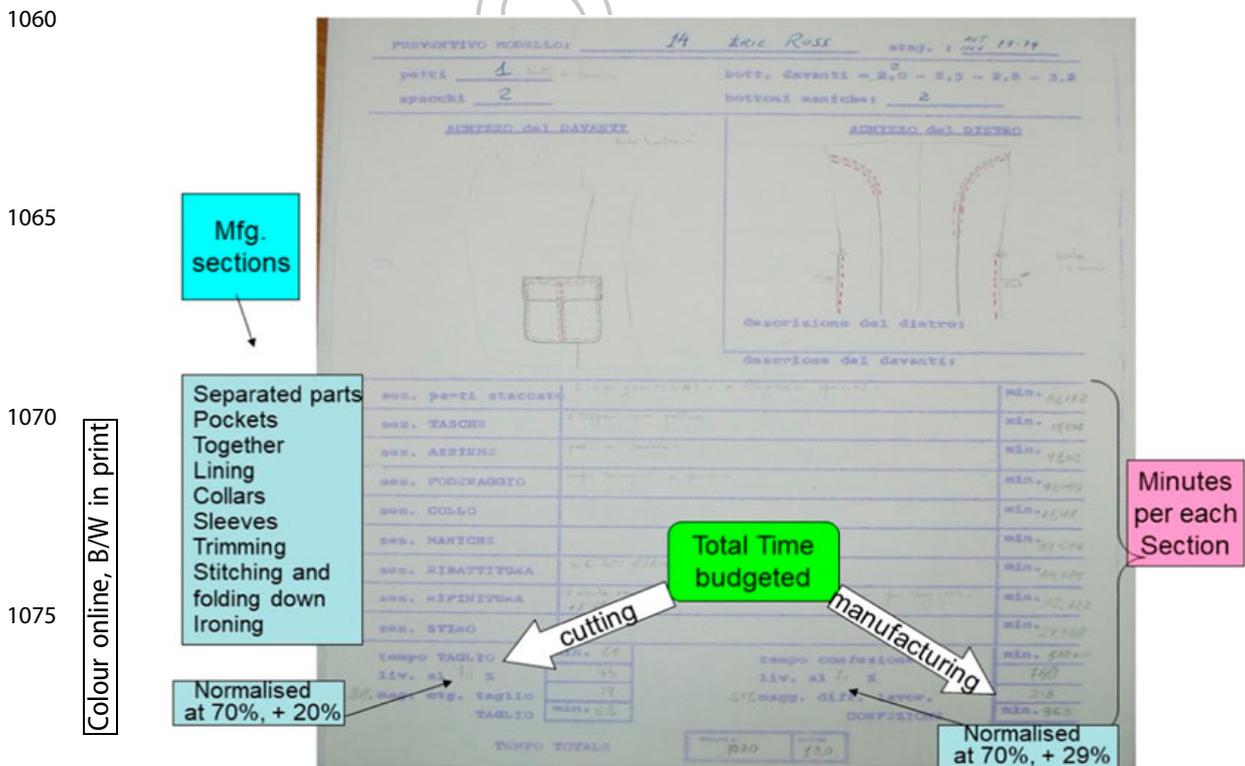


Figure 4. Labour-hours budget for Eric Ross Collection. Source: Penne Company Archive, De Mattei personal booklet.

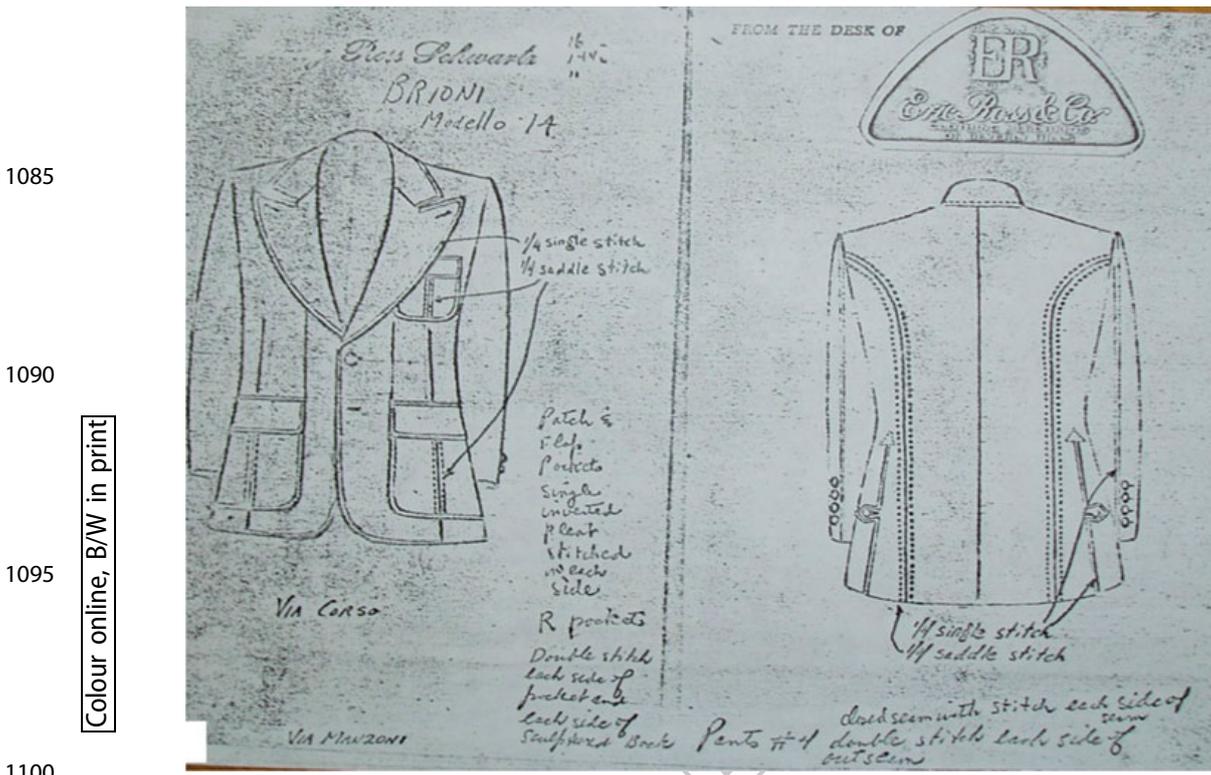


Figure 5. Product sketches for Eric Ross Collection. Source: Penne Company Archive, De Matteis personal booklet.

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product innovation activity sometimes escaped, for brief moments, the mediation effects of the costing document. Moreover, the example highlights how, upon its return to the factory, artefacts sometimes triggered a state of challenge. At each of these moments, accounting and labour documents were differently involved in product and process innovation activities, where the 'art of interestment'- clearly highlights that 'the adoption of an innovation ... goes through a series of decisions which depend on the particular context within which the innovation is to be inserted' (ACL 2002, 202). Finally, from a purely accounting point of view, the example emphasises that in the 1970s exchanges of reports and variance analysis on standard costs with end retailers assumed not only the representation of the aggregated direct labour costs in one single numerical entity/row – as in the general budget portrayed by Table 2 – but also the disaggregation of the labour costs into each of the main manufacturing sections present in the factory plant, and mirrored by the direct labour budget template (Figure 4).²⁰

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The aforementioned product development and process improvement process is similar yet different from other types of production-consumption chains. For example, previous research has illustrated how product development activities usually involve a variety of participants and often organised around accounting artefacts such as costing estimates (Mora 2006, 342; Davila and Ditillo 2017, 36) and how product development may provide the impulse for process improvements (Abernathy and Utterback 1978). What differs in the Brioni case is not only the level of end-purchaser and shop-floor involvement in these activities but also the impulses for the different types of innovations. For example, master tailors designed and costed the prototypes, negotiated a final design and price

with the stores and then co-ordinated the process of coming up with a way to produce the garments in a cost-effective manner: involvement that differs from the fast-fashion industry where large retailers (i.e. Zara) undertake the product development and then push these new products down the production chain leaving the production facilities to find ways of saving sewing minutes.²¹ Second, the involvement of retail staff in the product design phase sometimes created a demand for process innovation – process innovation that was discontinuous with previous process innovations. While initial prototypes prepared by the master tailors were informed by their understandings of what ‘was possible’ production-wise, the product design suggestions of the retailers were less constrained by these manufacturing realities. Finally, the involvement of end purchasers in the design process made possible brief moments when product and process innovation activities escaped from the guiding influence of accounting artefacts.

The architecture of performance management and quality information systems

Performance management and the interactions between productivity and quality

As mentioned earlier, the main concern of Brioni, as mirrored by interviews and other primary sources, included the achievement of the highest quality level, while at the same time minimising production costs and lowering the production cycle time. Interactions between productivity and quality were supposed to be continuous on the shop floor, and oriented to obtaining the maximum number of suits with the highest level of quality at a certain level of costs (Marcotullio interview). To do so, performance management and quality information systems had to work in tandem with the accounting apparatus, and should have been monitoring the shop floor, which was a beehive of tailoring activity, as the tailors and seamstresses worked on the garment bundles as they passed through their area. Section heads, who were also skilled tailors, were responsible for the movement of, and accounting for, the garment bundles as they moved from one activity area to the next. Large tables were placed around all the major sections of the production lines and section heads used these tables to perform their duties. They thoroughly inspected each piece of the garment, recording details about the garment and the individuals and teams that had worked on it on *pro forma* production sheets (Di Battista interview). They also discussed the information with the tailors and seamstresses involved prior to forwarding the production documentation to the production manager and then on to the CEO. The production sheets recorded production, productivity and quality for each tailor or seamstress operation within the section (De Matteis interview).

It was these processes of filling in the artefacts that ‘invited’ the participation of shop-floor personnel (cf. D’Adderio 2011, 214) in productivity and quality control activities. Tailors, seamstresses and area supervisors discussed what was being written on the artefact. While it was the visual inspection by the supervisor that triggered the coding activity and hence a discussion of whether a quality issue needed to be resolved, the act of filling in the performance documentation helped to organise the interactions and any subsequent responses. In this regard, the need to perform the artefacts (cf. Feldman and Pent-

AQ5 land 2003) provided a partial structure for these interactions. One of the consequences of

these interactions was that the tailors and seamstresses working in the area were constantly up to date on the productivity of the area.

I observed the section heads of each area, sharing and gathering accounting information mainly on the amount of material used and subsidiary articles used on a daily basis, as well as on productivity with the tailors and seamstresses ... the working groups responsible for passing bundles knew each day what had been produced singularly and what had been produced as a team, etc. (Marcotullio interview)

As in other factory settings, this sharing of knowledge about inputs and outputs served to remind participants about production goals, allowing both the individual and group to engage in self and other monitoring activities (Neu, Rahaman, and Everett 2014, 334).

Importantly, since the late 1960s, approximately 10 years after moving to the new factory, senior management decided to introduce individual-based and group-based financial incentives. Normal production levels were established and reported for each of the manufacturing sub-components and incentive-rewards were allocated to both individuals and teams when the production output was above the 'normal' threshold and when there were no quality defects (Penne Company Archive). Table 3 illustrates the operation of the incentive-rewards systems as it applied to different groups of tailors/seamstresses working in different tailoring spaces during the years 1974–1975.

Looking at Table 3, it emerges that 'innovator constantly assesses the people he meets or work with' (Akrich, Callon, and Latour 2002b, 222). Moreover, the introduction of financial incentives arguably changed day-to-day shop floor practices. Like other accounting artefacts, the productivity calculations not only made certain behaviours visible but

Table 3. Productivity rewards for tailor and seamstresses, July 1974.

		LUGLIO '74	AGOSTO	SETTEMBRE	OTTOBRE	NOVEMBRE	DICEMBRE	GENNAIO 1975	FEBBRAIO	MARZO	APRILE	MAGGIO	GIUGNO	LUGLIO	AGOSTO	SETTEMBRE	OTTOBRE	NOVEMBRE
workers rewarded	Direttam. incentivati	361	378	375	304	303	390	321	383	390	388	385	386	386	381	381	380	380
% of w. rewarded	% premiati	67%	68%	67%	66%	65%	68%	63%	68%	68%	68%	68%	70%	70%	71%	68%	68%	68%
Productivity of workers rewarded	Rm incentivati	1120	920	910	735	715	836	790	761	731	733	737	743	789	770	771	740	716
Expense for rewards	SPESA PREMIO	3.703.878	4.201.580	3.250.615	3.794.273	3.010.650	3.670.860	3.579.255	2.020.820	1.615.281	2.162.587	2.504.320	3.733.812	6.125.635	2.316.104	4.844.515	1.366.812	2.904.920
Cutting hours vs re.	ORE TAGLIO	6781	2726	6700	6808	6064	4745	6363	3322	4226	6105	4452	5044	4423	6354	3323	6071	624
Jacket hours vs re.	ORE GIACCA	49320	24106	52362	50021	27310	33518	44419	17767	25721	33670	31100	40803	40251	8800	20888	2333	5195
Trousers hours vs re	ORE PANTALONI	10024	5020	13200	12625	13875	7000	12235	2256	8571	8803	6400	7730	7630	2255	740	7472	6128
Cutting Product.	Rm TAGLIO	87,23	84,13	84,50	84,18	87,14	90,03	85,15	87,56	86,82	86,82	86,78	86,64	84,50	84,50	84,73	85,56	
Jacket Product.	Rm GIACCA	7833	82,17	82,60	77,44	79,58	77,03	77,03	73,23	75,22	75,22	75,22	80,16	80,16	79,08	74,91	78,13	
Trousers Product.	Rm PANTALONI	69,46	73,82	71,11	68,25	70,61	71,18	66,98	66,72	66,72	66,72	66,72	66,72	66,72	66,72	66,72	66,72	66,72

Source: Penne Company Archive.

also became part of the daily routines. The former CEO, for example, provided the following comment.

1220 The fact that every tailor and every seamstress knew what his/her daily performance level was as well as that of his/her working team has always proved faithful in the transparency of the allotment of incentives and in the promotions of the organizational working positions, which in turn motivated singles and groups to do better, yet respected those who were unable to do better. (Marcotullio interview)

1225 While the arrangement of incentive structures helped to motivate and arrange individual and group behaviours on the shop floor, the practices of filling in the artefacts and the subsequent interactions also had disciplinary effects. For example, the 'grading' activities of the section head were visible to all nearby shop floor workers. Likewise, the subsequent conversations with the involved workers, either seeking clarification or providing feedback on identified problems, reminded individual workers of their responsibilities (Di Battista interview). These forms of discipline were quite subtle compared to what might be
1230 observed in other factory settings. They did not involve 'throwing the garment at the worker' nor did they involve implicit or explicit threats (cf. Neu, Rahaman, and Everett 2014, 342). While these conversations and interactions were still about expectations regarding performance, the style of interaction was quite different.

1235 It was this style of interaction, we contend, that maintained a space for innovative consequences. Participants, for example, recollected how these interactions provided the moment and impulse for discussions about ways to do things 'better', either in terms of sewing the garment differently to reduce the amount of time involved or to come up with a more elegant tailoring solution for one of the aspects of the garment.

1240 We often discussed in our tailoring sections ways to achieve a better overall quality. For example, for the longest time we knew that there was a problem with the internal part of the collar-basting mirror but we couldn't find the way to solve it. This resulted in both a lower quality perception from clients who felt their neck stiff from the jacket, and many reworks on our part as we tried to fix the collar. After many different discussions and conversations, we came up with a changed way to sew it and this resulted in less cycle time, and a
1245 higher quality perceived by our clients. (Di Battista interview)

1250 These process innovation consequences invariably flowed back up the production-consumption chain as the master tailors incorporated the changes into their prototypes for new products that were presented to retail buyers (Fonticoli interview). Accordingly, 'innovation takes shape through this rapid movement of incessant backwards and forwards ... through interposed technical choices, the results of all previous compromises i.e. of all the successful "interessments"' (Akrich, Callon, and Latour 2002b, 213).

1255 The preceding illustrates how artefacts collate and summarise what is known and not known about the tailoring process for the individual garment, providing thereby the starting point for interactions among team members. Sometimes these interactions assumed that the numbers signalled a problem with the performance of individual tailors; however, in other instances, the numbers triggered a discussion about ways to change current tailoring practices. Participants suggested that this latter type of conversation was more likely to occur when the 'problem' was not attributed to a single tailor (Di Battista interview).

1260 The idea that calculating artefacts, and the style of interaction around the artefacts, could trigger localised resolution practices with potentially innovative process and

product consequences resonates with the extant literature. Previous research, for example, suggests that the combination of accounting artefacts and a certain style of interaction around the artefacts can result in repair activities – that is ‘flexible and local attempts to streamline and refine work processes’ (Ahrens and Chapman 2004, 277).
 1265 This same idea is present in MacDuffie’s 1997 study of shop-floor ‘problem-solving’ practices within car assembly factories. It also underpins Caterpillar’s attempt to re-align production processes within its assembly plant and to utilise ‘intense problem solving within and between cells of workers’ (Miller and O’Leary 1994, 42).

1270 Interestingly, these attempts to foment process innovation via collective shop-floor problem solving also resonate with the idea that innovative consequences are often the result of collective rather than individual activity. As Hargadon and Bechky note, it is interactions among individuals that trigger solutions ‘that the individuals involved, thinking alone, could not have generated’ (2006, 489). Such interactions, however, will not always result in the search for new methods or in the successful identification of new
 1275 methods (idem, 497). Sometimes these processes get derailed by the act of coding itself in that the coding has already defined the problem and presumed the solution (MacDuffie 1997, 489). Sometimes the interaction focuses on assigning blame thereby creating a situation where participants react defensively (idem, 493). These observations highlight that the types of accounting artefacts, as well as how they are used, have the
 1280 potential to both enable (cf. Jørgensen and Messner 2009) and discourage collective activity that has innovative consequences.

Formalising quality information

1285 As the first decade of operations in the factory of tailoring drew to a close, the demand for Brioni suits – as highlighted earlier – showed no signs of abating. These changes made it both more difficult and more important to maintain a consistent level of quality and productivity on the shop floor. To address this necessity, senior management introduced a quality information (QI) system in 1973, modifying the *pro forma* production artefacts to include standardised quality data.²² To do so, Brioni recruited as QI
 1290 manager another ‘good spokesperson’, Antonio Santoro, an Abruzzi tailor who had been responsible for QI at Chester Barrie, Savile Row London, at that time guided by Simon Ackerman.

1295 On the surface, the introduction of the QI system did not change formally or substantially day-to-day interactions, as section heads continued to inspect the garments and to note any identified defects on *pro forma* production sheets. Nevertheless, the most common defects codes were identified by the quality team as related to: (I) canvases tacking; (II) trimmings tacking; (III) shoulders stitching; (IV) collars stitching; and (V) round stitching. These coding activities, however, were guided by the list of defect
 1300 codes, whose knowledge was also derived from previous experiences of either the Time and Method or the Quality managers (Santoro interview). Once again, these coding activities had not only disciplinary effects but also served to frame interactions and provided a venue for knowledge sharing. As the chief accountant commented: ‘the QI program tried to build consensus on – and stimulate knowledge sharing about – the common defects at
 1305 each of the stages of the sartorial process’ (Marcotullio interview), albeit knowledge sharing that was now organised by a series of common defect codes.

What did change, however, were the resolution practices triggered by the QI artefact deployed by the company through the new Quality leader. These 'new' resolution practices were more systematic, involving a more elaborate and longer-term search, testing and implementation process. Furthermore, more reliance was placed on numerical indicators in the testing and implementation phases. While it does not appear that these problem resolution practices were written into standard operating procedures (cf. D'Adderio 2011, 201), the introduction of a more formal QI system seems to have encouraged more formal resolution procedures. The case of the front suit pockets illustrates these new problem resolution practices.

The QI data indicated that our primary quality problem was with the 'front and pockets' tailoring activities and in particular with the canvas gathering on the jacket. Men wearing Brioni suits would see the fronts of their jacket going outward – and not inward – and would sometimes complain about the 'hardness' of the suit. We knew that this was somehow tied to the method of attaching the plackets to the internal canvas since this impacted on both the outward gathering of the jacket and the looseness of the fronts. At the time our regular behaviour was to apply 1.5 cm of canvas to all jackets, but we had serious quality issues on a good number of jackets. Month by month, after many interactions with the members of the tailoring section we initiated a series of tests and checks on the process, including varying the amount of canvas and noting how the results varied depending on both the fabrics used and the fibres' typologies as well as by the fabric's reaction to vapours and humidity. Indeed, we concluded that this latter variable caused many of the defects in the 'front and pockets' section, as well as re-works in other subsequent sections, including the ironing section, where some jackets never appeared excellent, even after hours of extra ironing. (Santoro interview)

The above recollection highlights that 'the research of compromise, which is nothing more than another name for the will to succeed, occurs through experiments which take place everywhere and through successive iterations' (Akrich, Callon, and Latour 2002b, 212). The quote illustrates how information contained in QI artefacts were interpreted as signalling a quality problem thereby triggering a series of discovery and testing processes aimed at finding a solution. While much of the information used in the discovery/testing process was non-financial in nature, the process also involved calculating the financial implications of the different solutions – for example, ensuring that the final solution reduced the 'hours of extra ironing'. In these ways, accounting artefacts helped to both guide and assess innovative activity.

Similar to the previous problem resolution practices, the process of finding a solution remained localised. While senior management and the person in charge of the QI program were informed of the on-going process, the shop floor team maintained relative flexibility and autonomy over the search for, and implementation of, a solution.

After examining the new data we changed our sartorial behaviour, changing the amount of canvas depending on the fabric weight and the fibre characteristics since these characteristics caused the different reactions to vapour and humidity ... Once the solution had been identified and tested, the results were reported upward to the CEO and the person in charge of the QI program. (Santoro interview)

Thus, the introduction of a QI system formalised and added another degree of detail to the previous embryonic quality management practices. The QI practices were built around accounting artefacts that summarised what is known (the cost of an apparel item, the quantity of specific types of defects) and involved interactions that both presumed and

encouraged the systematic search for improved tailoring practices, sustaining process innovation (again) through continuous 'backwards and forwards' (Akrich, Callon, and Latour 2002b, 213). Furthermore, accounting artefacts were now a much more active participant in that they assisted in judging the adequacy of the solution. In this regard, accounting functioned as both a trigger and a potential pathway for innovative action (cf. Gagliardi 1990, 32).

The introduction of the QI system is worthy of comment, especially when juxtaposed with the work of Bouwens and Abernethy (2000) on the use of accounting in customisation settings. First, the QI system was internally focussed in that it *did not* span the different parts of the production-consumption chain. Thus, the QI system was a single sub-unit system that attempted to deal with a specific fabrication problem – namely quality. The introduction of a single sub-unit system within a product customisation setting highlights that not all accounting systems within the production-consumption chain need to be geared to the same purposes. It is also consistent with the observation of Lampel and Mintzberg (1996) that chains following a *pure customisation or tailoring* strategy may choose to adopt enabling technologies and processes that move the firms' chain in the direction of a more middle ground strategy. This being said, the example also shows that the use of systems such as QI must be sensitive to the sometimes competing objectives of quality improvement and innovation. In a related manner, sometimes costing information triggered changes either in the sequence of shop-floor manufacturing activities or in the achievement of better quality thresholds in the organisation. The following quote highlights how material costing reports from the cutting department provoked a systematic response geared to finding a different way to cut *and* sew the shoulder panels on a suit.

One of the main issues for the 'Cutting Department' was the waste of expensive fabric as well as subsequent quality problems resulting from the way of cutting the front and shoulders pieces ... At that time most of the tailors used to cut the same pieces of fabric folded down. By so doing you achieved perfect symmetrical pieces but you couldn't use the left pieces of fabric. In the 1970s we were serving clients from the USA to Japan and Australia, and this caused numerous problems since men's bodies are not like cars. After studying the costing reports for each suit size and the different anthropomorphic measures by country, we started to talk about these differences. Through these conversations, we came to the tentative conclusion that it might be better to do an open cut of single pieces of fabric thereby adjusting for the existing differences in men's shoulders, which usually tend to need one centimetre less on the right shoulder. With this method we were also able to use the leftover fabric for other sartorial pieces without wasting it. The same has been done also for trousers to compensate for differences between the right and left leg apex and the crotch. At the very beginning we thought that this change would ensure better quality and less fabric waste but we couldn't bet on the fact that this new cutting manner would improve the overall cycle time. After tests and checks inside the group and through the sartorial tailoring sections, we came to the conclusion that this innovation resulted in lower fabric consumption and waste, a higher suit quality, and also a shorter cycle time because there was less of a need for re-work in the different tailoring sections. (De Matteis interview)

Not only did the costing report data encourage senior management to put into motion a process to search for new and improved ways, it also was used to judge the adequacy of the arrived-upon solution. These latter circumstances offer support to the ACL theoretical lenses in that the Roman Style laboratory incorporated continuous 'research', meaning 'the research of evaluations and all sort of trials to which one wishes to submit oneself to'

(Akrich, Callon, and Latour 2002b, 214). Marcotullio's interview with Vergani confirmed the following result.

1400 Over those two decades [1960s–1970s] ... while retaining an emphasis of doing things by hand (the drawing, the cutting of the fabric, the preparatory stitching, the tacking, the hems, the sewing on of buttons, the finishing), we had managed to cut the time required for the construction of a suit from forty-five to twenty hours, by perfecting the subdivision of labour to suit the aptitude of the individual, by selecting the staff and by fine tuning the system. (Vergani 2004, 83, 86)

1405 **Fiascos ... and further reflections on the genealogy of Brioni's success**

Sometimes the history of success may be less rosy than predicted. The Brioni case includes a number of fiascos related to product and process innovations. Therein, Checchino Fonticoli, for example, recalled the internal study for the launch of a new sport trouser at the end of 1970.

1410 I had crafted a new line of sport trousers, and De Matteis had studied with me a new labour cycle which was able to diminish the standard time – before the normalisation – from 150 to less than 100 minutes, as compared to the sartorial trousers more traditional style. Lucio, of course was confident that the labour time reduction would have produced costs savings. 1415 After several tests and checks in the factory, we went to present the new product to department stores, which were our first key-clients, and whose tastes and consequent decisions for us were pivotal, being the production driven on a demand-pull basis. They asked us not to launch the new product for market reasons, mainly because the fashion-style of trousers was not supposed to be compliant with the sartorial jackets of gentlemen in the 1970s 1420 Accordingly, after several months of experimentations, we were obliged to quit the new product project Please note that in recent times white-collar in their 60s/70s regularly wear sport trousers coupled with sartorial jackets ... perhaps we had anticipated too much the customers' tastes. (Fonticoli interview)

If the previous examples explain a new product fiasco, due to market reasons as highlighted by the influential opinions of key clients, examples of failure also exist in Brioni's attempts to introduce simple processes innovations. In this respect, DeMatteis recalled the following.

1430 In the 1970s manufacturing processes of sartorial trousers, there was a section entitled 'internal tailoring, legs and crotch', which requested 3.208 minutes of standard labour time. In my prior experience at Monti my tailors were able to do the same operations, in an industrial manner, in 60 seconds. It is easy to understand how much savings such a reduction would have triggered in case we were able to introduce some technical innovations on this specific repetitive operation. This is why we tried for months to experiment with an innovative tailoring techniques, mimicking what had already been deployed at Monti, and adapting to the Roman Style tailoring pipeline. For so doing we introduced several rocking chairs on which, in parallel, different seamstresses should place 130 cm long trousers to let them flow and be hand-stitched. Our internal calculations illustrated that production time might be reduced by at least 1/3 of the total time, thus triggering huge cost savings. Nevertheless, the sartorial resistance was evident, as seamstresses and tailors said that the final result would have never been like the regular sartorial hand-made operations, as the rocking chairs were scrolling too much the fabric, thus not granting the highest quality to the stiches. They also added that it was true that it was quicker to sustain the flow of the trousers on the rocking chairs, but any human being in certain moments would have sewn in a very uncomfortable posture, and it was impossible to meet the daily trousers quantities without either ruining

the trousers' quality or asking too much efforts to the body posture of tailors/seamstress. After months of experimentations, and although the manufacturing innovation was showing positive results, the project was abandoned, as for the resistance of seamstresses and tailors which did not believe it was a good manufacturing innovation. (DeMatteis interview)

1445 The above recollection illustrates that for this specific process innovation, the number of allies was not sufficient to support the launch of the new tailoring procedure. Contrariwise to what appeared in the previous example, where external factors provoked the collapse of the new product project, in this latter case, internal factors – namely the resistance of tailors and seamstresses – triggered the abandonment of the new production processes.

1450 For the sake of manuscript length, we provide only a brief report on examples of failure. Yet it is undeniable that the history of Brioni in the 1960s and 1970s was uncertain and risky, although replete with innovation attempts. Indeed, from the one side, the well-known fashion historian Giorgetti, reported in the mid-1990s that *'Throughout the first phase of the factory's history, which lasted fifteen years, there was a continuous flow of technical and production innovations'* (Giorgetti 1995, 87, *emphasis added*), on the other side, the former Roman Style CEO in 2004 reported in an interview to Vergani.

1460 We threw ourselves in the project with the enthusiasm of kids diving into the sea ... *It has to be admitted that, for ten, fifteen years we were a laughing stock. We were pathetic. No one would have bet a single lira on our future.* It looked as if we had created that company solely out of a passion for Penne, our hometown. They thought we were just playing around, while we believed in it wholeheartedly. *We were surrounded by scepticism.* (Vergani 2004, 81–82, *emphasis added*).

1465 The above interview clearly highlights that in order to achieve success 'it is necessary to have a consenting management which is not discouraged by the desperately negative results of the first experiments, and which must be permanently convinced of the long-term interest of the process' (Akrich, Callon, and Latour 2002b, 208). In a related manner, the interviews with the former CEO shed new light on some points useful in order to complete a socio-technical investigation of the company's success.

1470 In my long period of factory's guidance, I have always felt the moral responsibility of directing the company and its personnel ... and I did realise from the very beginning that the thriving of the company would have meant the thriving of the entire town and area ... from which several hundreds of tailors and seamstresses came to work every day united and oriented towards the same purpose ... I have always said and repeated that we achieved as a final result *suits made by thousands- hands, yet one soul* ... (Marcotullio interview, *emphasis added*)

1475 Accordingly, he confirmed that 'the model of interestment underlines the collective dimension of innovation' (Akrich, Callon, and Latour 2002b, 209), thus stressing the pivotal relevance of the human dimension in the collective efforts of a company town to craft daily the best ever suits. From another perspective, he also proudly argued that

1480 [T]he concurrent action of tailors/seamstresses, technical and production innovations as well as the building of an accounting and performance management system have worked in Penne for a set of concurrent conditions. Out of Penne and the new Roman Style factory most of the technological product and process innovations would have never worked. Do you know how many entrepreneurs and delegations of foreign nations and Chambers of Commerce have come to visit us? A huge number I would say. In several cases we did realise that they were secretly videotaping our manufacturing pipeline, the tailoring works, the disposition of spaces and our working templates and sheets. Despite their willingness to mimic us,

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the innovations we launched have effectively worked only in our factory, and those factors lead to an undeniable success for decades. (Marcotullio interview)

1490 This last quote emphasises the concurrent effects of external and endogenous factors, the unique combination of human technology which fostered and fuelled the company's success through those glorious decades.

Discussion and conclusions

1495 By utilising a wide range of primary sources and a longitudinal analysis of an iconic luxury high-fashion company in the 1959–1979 time span, this study has responded to a prior call for the investigation of unexplored accounting, management and organisational innovative practices in the luxury high-fashion industry 'over time' (*Accounting History Review* 2017). The concepts of ACL with respect to socio-technical analyses have been identified as an appropriate analytical framework. Indeed, ACL's theorisation emphasises the 'model of interestment' which 'allows us to understand how an innovation is adopted, how it moves, and how it progressively spreads to be transformed into a success' (Akrich, Callon, and Latour 2002b, 209). Moreover, in socio-technical explorations human action and technological infusions are twin pivotal players to achieve long-term success in innovation, thus denying the possibility that innovation is deemed successful per se, given its
1500 intrinsic properties. Importantly, with one exception (Gendron and Barrett 2004), ACL's theoretical elaborations have been almost completely neglected in accounting and accounting history research.

Drawing on ACL concepts, we have demonstrated how the rise and spread of innovation in the re-locations of the Brioni premises from downtown Rome to different
1510 locales in Penne were triggered – in the main – by the transplantation and adaptation of machinery and equipment transferred from Sweden, which launched new experimentations and work. Consequently, the launched Swedish 'serial production' process introduced a new batch continuous work flow in the high-fashion industry, which was sustained by several step-by-step adjustments, in tandem with adequate training of
1515 tailors to facilitate the transfer and adaptation of knowledge. The achieved economy of space and organisational efficiency were pursued through several steps and adjustments in the long-term success of the new factory project. In so doing, 'the social "material" and the technical "material" are both relatively malleable, and the successful innovation is the one which establishes an acceptable arrangement between the human actors ... and the
1520 non-human actors ... at the same time' (Akrich, Callon, and Latour 2002b, 210). While, as highlighted by the fashion literature, most of the main 1950s French and Italian competitors in the 1960–1970s disintegrated either for not having understood the style preferences of consumers, and as a result of increasing costs (Merlo and Polese 2006, 429; Merlo 2011, 348), Brioni succeeded to survive.

1525 As recalled by fashion historians and confirmed by oral testimonies of key actors of the time, in the first 15 years after the relocation 'there was a continuous flow of technical and production innovations' (Giorgetti 1995, 87) in a socio-economic scenario full of uncertainty and mysteries, where the same CEO recalled that for 10, 15 years they were pathetic and surrounded by skepticism' (Vergani 2004, 81–82). Indeed, in spite the existence of
1530 documented fiascos in terms of product and process innovations, the 'consenting management' was not 'discouraged by the desperately negative results of the first

experiments' as it was 'permanently convinced of the long-term interest of the process' (Akrich, Callon, and Latour 2002b, 208).

1535 The infusion and adaptation of technological innovation in the factory worked in parallel with the appearances of accounting, labour, management and organisational innovative practices, which were pursued, experimented with, and deployed across time through a team of 'judiciously selected Spokesperson' (Akrich, Callon, and Latour 2002b, 221). Admittedly, while the Brioni founders – Fonticoli and Savini – were concerned a priori with the need 'to cut down the production cycle' at the same time 'not reducing the quality' of the garments (Vergani 2004, 81), it was a team of experts aptly recruited who
1540 helped to translate the new factory project into practice.

In a completely demand-pull production-consumption chain – different from those analysed in the historical and contemporary literature – new and purposely built and tested accounting and labour practices were developed according to customers of variable taste, size and geometry. These circumstances witness the need to have 'good relationships with them' ... although, especially in high-fashion luxury chains 'you are confronted by numerous mediators who pretend to tell you what it is the customers want' (Akrich, Callon, and Latour 2002a, 200). Importantly, the documented new accounting practices contribute hitherto neglected micro-accounting and management techniques in luxury fashion to the scant historical and contemporary accounting literature, which
1545 has focussed on department stores and retailers (Jeacle 2003; Giertz-Mårtenson 2012; Jeacle and Carter 2012), fast-fashion (Jeacle 2015), children's garments (Busco et al. 2012), low-price apparel sweatshops (Neu, Rahaman, and Everett 2014) and *prêt-à-porter*/fast-fashion companies (Davila and Ditillo 2017).
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Moreover, as briefly demonstrated by the documented fiascos, failures in product or process innovation were recorded when Brioni did not meet either the opinions of key clients (i.e. department stores or boutiques), or fomented tailoring resistance and disagreement. As confirmed by our research, the model of *interressement* emphasises that successful innovation depends on its capacity of 'interesting an increasing number of allies' (e.g. final clients, retailing intermediaries, tailoring actors, personnel, etc ...) where innovation and the 'social environment which adopt it simultaneously shape each other' (Akrich, Callon, and Latour 2002a, 205). In a related manner, a new architecture of performance management and quality information systems was erected, where, again, either a leading group of 'Spokesperson' and the 'Art of *Interressement*' were the pivotal ingredients to foster product and process innovations in tandem with innovative organisational and management practices.
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As highlighted by our longitudinal socio-technical exploration, it was not a stroke of genius which drove the success of the diverse Brioni's relocation(s), technological innovation(s), the production pipeline transformation(s), and the connected efficient space re-organisation(s). On the contrary, the continuous art of compromise and capacity of adaptation played pivotal roles either for the technological introduction and experimentation, and for the deployment of new accounting and management practices in this iconic luxury high-fashion company, whose success in the two investigated decades was achieved through 'an immense collective undertaking which assumes the active support of all participating actors' (Akrich, Callon, and Latour 2002b, 208).
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1575 Future strands of research into the luxury high-fashion history, especially but not only in the 1945–89 period, might examine three related subjects. First, in the marketing and

sales' area there are a number of ideas and innovations deployed in the aftermath of World War II until the end of the 1980s. Several forerunners contributed to the success of Brioni, starting from the impetus of the co-founder Gaetano Savini, and passing across the subsequent decades through other key company actors, including Peppino Pesci and Gabriele Napoletano. Comparative studies might focus on the practices of production management, quality assurance and reporting deployed by other global high-fashion players, such as the Italian giant Kiton, or Oxford industries in the USA, or one of the French couturiers such as Pierre Cardin. These latter studies might illustrate similarities, or differences, in the managerial behaviour of such companies during recent decades, as well as in the management, accounting and reporting practices deployed during the initial control at a distance of directly operated stores and retailing shops around the globe. In a related manner, it is worthy to note that some precise fashion areas have never been analysed (e.g. bags, or shoes, etc.). The last strand of research might examine the accounting and management practices in the specific luxury arena (e.g. luxury jewellery, watches, etc.). These neglected issues of the high-fashion and luxury world deserve the closer attention of the accounting community.

Notes

1. From herein Akrich, Callon, and Latour is indicated as 'ACL'.
2. We note that the paucity of research on innovation in high fashion is also confirmed outside the boundaries of accounting and accounting history journals. Two notable exceptions outside the accounting and accounting history fields of study have focussed on the search of innovation in fashion styles (i.e. Cappetta, Cillo, and Ponti 2006; Cillo and Verona 2008).
3. Notable exceptions in other non-accounting journals also are not focussed on luxury high fashion. While Lazerson (1995), for example, focussed on 'knitwear', Richardson (1996) examined 'surf wear and casual wear', and Djelic and Ainamo (1999) investigated different forms of organisational networks in the broad fashion industry.
4. Revellino and Mouritsen (2015) imply that researchers have tended to focus on knowledge-intensive firms and high- technology start-ups because innovation is a key component of organisational strategy. Importantly, others argue that innovation is a key component of most industries (cf. Drucker 1998; Danneels 2002), including the high-fashion (Mora 2003a, 2003b) and low-fashion (Jeacle and Carter 2012) industries.
5. Previous research has raised questions about the fallibility of memory, especially when dealing with emotional-laden and traumatic topics (cf. Thomson 1999, 291; Yow 2005, 45). This issue is less of a concern in the current study given the topic of the interviews (cf. Yow 2005, 43).
6. The primary sources used in this manuscript differ considerably from those used in Sargiacomo (2008).
7. The use of a small number of in-depth interviews with senior managers and other key organisational participants is quite common (cf. Maclean, Harvey, and Chia 2012) as is the use of multiple follow-up interviews with a temporal space between interviews (cf. Ezzamel and Willmott 1998, 368; Chua, Mahama, and Dirsmith 2007, 58).
8. Indeed, the notary deed dated 31 December 1945 by the notary Iginio Clementi lists another founding father, Armando Calcani, who actually was the first President of the Board. This is why the limited liability company was initially named after the President's surname (Civitavecchia Historical Archive).
9. Fashion historians (i.e. Giorgetti 1995; Chenoune 1998) and the Harvard Business School case (Bell 2003, HBS, 9-503-057) unanimously highlight that Brioni's first 1945 location was Via Barberini 79 in Rome, as confirmed by the company's website (https://www.brioni.com/it/heritage_section). On the contrary, the primary sources accessed, in particular the 'Report

of the Administrators 1945–1946', indicate that the first location was Via Giovanni Amendola n. 79 in Rome. Only in 1947 do the same primary sources suggest the move to Via Barberini 79.

10. Interviews with Checchino Fonticoli.
11. Therein, it is important to note that Checchino Fonticoli's memories – about the Rome workshop – chime with the picture displayed on Brioni's website (https://www.brioni.com/it/heritage_section). Nevertheless, it is apparent that the picture (at the time of finalising this submission) erroneously addresses the 1959 Penne's organisational process. A confirmation of the mistake is contained in Vergani's volume, *The Abruzzi Tailor's Workshop* (2004, 70–71), where the same picture correctly portrays the Rome workshop in the 1950s.
12. By 'artefacts' we mean, any physical object – document, report, template – upon which accounting, management or organisational numbers and/or notations or calculations are inscribed (cf., Robson 1992, 689; Quattrone 2009, 104).
13. In the mid-1950s, movie stars, such as John Wayne, Gary Cooper, Clark Gable, Rock Hudson, Anthony Quinn and Henry Fonda, began to visit 'Brioni' (Giorgetti 1995, 40; 122). These visits were, in part, the result of the identification by the US press of Brioni as a source of a 'new look for men' (*New York Times*, September, 1955), the leader of a 'second Italian Renaissance' (*The Boston Herald*, October, 1955), and the 'Dior for men' (*Life*, October, 1955).
14. The author prepared all translations into English from the primary sources present at the RNSA.
15. Opening the respective actual official websites, it is still possible to see the many similarities in the outside of the main factory buildings of Sealup in Gallarate (<http://sealup.net/IT/about>) as compared to Brioni's premises in Penne (www.brioni.com).
16. The author prepared all translations into English of the interviews with Brioni's key actors.
17. Comparing the 1976 map with the 1971 one located at the RNSA and countersigned by the Engineer Donato Acciavatti on 20.11.1971 in Pescara, it is easy to discern several space differences between the overall 1971–1976 production cycles, some which are those recalled by Marcotullio's oral testimonies.
18. Brioni tailors periodically visited retail outlets to take custom fittings for made-to-measure clients. The client selected a suit style, including the combination of models, patterns, fabrics, colours and finishings.
19. For example, a Brioni fashion show, organised by Woolands of Knightsbridge, took place in London in 1961. Likewise, a Brioni team visited Mituskoshi retailers in Tokyo in 1967 (Giorgetti 1995, 153; 175).
20. Importantly, when in 2012 we accessed the factory's SAP R/3 customised accounting software, we realised that the contemporary standard/actual fabric/labour cost variance was 'heavily' replicating the reports launched four decades earlier in the 'Roman Style' Factory.
21. From this vantage point, the use of accounting to extract these extra sewing minutes can be viewed as a type of process improvement. For a more contemporary comparison, see Cammett (2006, 35) and Neu, Rahaman, and Everett (2014).
22. The introduction of a QI system appears similar to, and seems to foreshadow, what during the 1980s in North America came to be referred to as TQM. It also appears to overlap with what *Harvard Business Review* referred to as a 'house of quality' approach that Toyota began to use in 1972 (Hauser and Clausing 1988). This latter approach provided a set of 'planning and communication tools' that connected together the consumption and production parts of the chain, thereby helping to design and produce products that 'reflected customers' desires and tastes'. Similar themes regarding the role of accounting artefacts in triggering and facilitating adaptive change appear in the late 1980s in the relevance lost (Johnson and Kaplan 1987) and relevance regained (Johnson 2002) literatures.

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AQ6 No potential conflict of interest was reported by the author.

AQ7 References

- 1675 *Primary Sources*
Archives
Civitavecchia Historical Archive, Civitavecchia: Brioni published financial statements, and Report of the Administrators, 1945–1959.
Penne Company Archive (PCA): 1959–1979.
- 1680 Penne Company Archive (PCA): Lucio Marcotullio personal booklet, 1959–79.
Penne Company Archive (PCA): Gianfranco De Matteis personal booklet, 1969–1979.
Rome Company Archive (RCA): 1945–1959.
Rome National State Archive (RNSA): ‘Roman Style’ factory bundles ISVEIMER-CASMEZ: 17736, 7799, 17529, 11037.
- 1685 *Secondary sources*
Abernathy, W. J., and J. M. Utterback. 1978. “Patterns of Industrial Innovation.” *Technology Review* June–July: 40–47.
- AQ8** Abernathy, F., J. Dunlop, J. Hammond, and D. Weil. 2004. *A Stitch in Time: Lean Retailing and the Transformation of Manufacturing: Lessons from the Apparel and Textile Industries*. New York: Oxford University Press.
- 1690 *Accounting History Review*. 2017. “Accounting for Luxury: Workshop and Call for Papers.” *Accounting History Review* 27 (3): 289–290.
- Adner, R., and D. Levinthal. 2001. “Demand Heterogeneity and Technology Evolution: Implications for Product and Process Innovation.” *Management Science* 47 (5): 611–628.
- Ahrens, T., and C. Chapman. 2004. “Accounting for Flexibility and Efficiency: A Field Study of Management Control Systems in a Restaurant Chain.” *Contemporary Accounting Research* 21 (2): 271–302.
- 1695 Akrich, M., M. Callon, and B. Latour. 2002a. “The Key to Success in Innovation Part I: The Art of Interestment.” *International Journal of Innovation Management* 6 (2): 187–206.
- Akrich, M., M. Callon, and B. Latour. 2002b. “The Key to Success in Innovation Part II: The Art of Choosing Good Spokesperson.” *International Journal of Innovation Management* 6 (2): 207–225.
- Amabile, T. M. 1998. “How to Kill Creativity.” *Harvard Business Review* 76 (5): 77–87.
- 1700 Annisette, M. 2000. “Imperialism and the Professions: The Education and Certification of Accountants in Trinidad and Tobago.” *Accounting, Organizations and Society* 25 (7): 631–659.
- Ball, C., D. Fairclough, and J. E. Ruckman. 2001. “Men’s Tailored Jackets: Objective Measurement and Consumer Perception.” *Journal of Fashion Marketing and Management: An International Journal* 5 (3): 189–198.
- Becker, F., and F. Steele. 1995. *Workplace by Design: Mapping the High-Performance Workplace*. San Francisco: Jossey-Bass.
- 1705 Bedford, D. S. 2015. “Management Control Systems Across Different Modes of Innovation: Implications for Firm Performance.” *Management Accounting Research* 28: 12–30.
- AQ9** Bell, D. E. 2003. “Brioni.” *Harvard Business School*, case No. 9-503-057.
- Berta, G., ed. 1989. *Appunti sull’evoluzione del Gruppo GFT. Un’analisi condotta sui fondi dell’archivio storico*. Torino: Gruppo GFT.
- 1710 Bertaux, D., and M. Kohli. 1984. “The Life Story Approach: A Continental View.” *Annual Review of Sociology* 10: 215–237.

- Bertaux-Wiame, I., and P. Thompson. 1997. "The Familial Meaning of Housing in Social Rootedness and Mobility: Britain and France." In *Pathways to Social Class: A Qualitative Approach to Social Mobility*, 124–182.
- AQ10** Bourdieu, P. 1996. "Understanding." *Theory, Culture and Society* 13 (2): 17–37.
- 1715 Bourdieu, P., and G. Balazs. 1999. *The Weight of the World: Social Suffering in Contemporary Society*, 507–513. Stanford: Stanford University Press.
- Bouwens, J., and M. A. Abernethy. 2000. "The Consequences of Customization on Management Accounting System Design." *Accounting, Organizations and Society* 25 (3): 221–241.
- Boyer, B. 1990. *Eminently suitable*. London: W.W. Norton and Co.
- Brown, S. L., and K. M. Eisenhardt. 1995. "Product Development: Past Research, Present Findings, and Future Directions." *Academy of Management Review* 20 (2): 343–378.
- 1720 Brown, P., and J. Rice. 2001. *Ready-to-Wear Apparel Analysis*. Upper Saddle River, NJ: Prentice-Hall.
- Bruce, M., L. Daly, and N. Towers. 2004. "Lean or Agile: A Solution for Supply Chain Management in the Textiles and Clothing Industry?" *International Journal of Operations and Production Management* 24 (2): 151–170.
- Busco, C., M. L. Frigo, E. Giovannoni, and M. Maraghini. 2012. "When Creativity Meets Control: A Fashion Industry Case Study." *Journal of Corporate Accounting and Finance* 23 (6): 61–72.
- 1725 Byrde, P. 1979. *The Male Image. Men Male Image. Men's Fashion in England 1300–1970*. London: Batsford.
- Callon, M. 1986. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fisherman of Saint Brieuc Bay." In *Power, Action and Belief: A New Sociology of Knowledge?*, edited by J. Law, 196–233. London: Routledge and Kegan Paul.
- 1730 Cammett, M. 2006. "Development and the Changing Dynamics of Global Production: Global Value Chains and Local Clusters in Apparel Manufacturing." *Competition and Change* 10 (1): 23–48.
- Cappetta, R., P. Cillo, and A. Ponti. 2006. "Convergent Designs in Fine Fashion: An Evolutionary Model for Stylistic Innovation." *Research Policy* 35 (9): 1273–1290.
- Carmona, S., M. Ezzamel, and F. Gutiérrez. 2002. "The Relationship Between Accounting and Spatial Practices in the Factory." *Accounting, Organizations and Society* 27 (3): 239–274.
- 1735 Carr, H. 1985. *The Organisation, Planning and Control of Production in Clothing Manufacture*. London: Emraine Publications.
- Chenoune, F. 1998. *Brioni*. New York: Universe Publishing.
- Christner, C. H., and T. Strömsten. 2015. "Scientists, Venture Capitalists and the Stock Exchange: The Mediating Role of Accounting in Product Innovation." *Management Accounting Research* 28: 50–67.
- 1740 Chua, W., H. Mahama, and M. Dirsmith. 2007. "The Effect of Network Ties on Accounting Controls in a Supply Alliance: Field Study Evidence." *Contemporary Accounting Research* 24 (1): 47–92.
- Cillo, P., and G. Verona. 2008. "Search Styles in Style Searching: Exploring Innovation Strategies in Fashion Firms." *Long Range Planning* 41 (6): 650–671.
- Cooney, R. 2002. "Is 'Lean' a Universal Production System? Batch Production in the Automotive Industry." *International Journal of Operations and Production Management* 22 (10): 1130–1147.
- 1745 D'Adderio, L. 2011. "Artifacts at the Centre of Routines: Performing the Material Turn in Routines Theory." *Journal of Institutional Economics* 7 (02): 197–230.
- Danneels, E. 2002. "The Dynamics of Product Innovation and Firm Competences." *Strategic Management Journal* 23 (12): 1095–1121.
- Davila, A., and A. Ditillo. 2017. "Management Control Systems for Creative Teams: Managing Stylistic Creativity in Fashion Companies." *Journal of Management Accounting Research* 29 (3): 27–47.
- 1750 De Luca, L. M., and K. Atuahene-Gima. 2007. "Market Knowledge Dimensions and Cross-Functional Collaboration: Examining the Different Routes to Product Innovation Performance." *Journal of Marketing* 71 (1): 95–112.
- Dickerson, K. J. 2003. *Inside the Fashion Business*. Upper Saddle River, NJ: Prentice Hall.
- Djelic, M. L., and A. Ainamo. 1999. "The Coevolution of New Organizational Forms in the Fashion Industry: A Historical and Comparative Study of France, Italy, and the United States." *Organization Science* 10 (5): 622–637.
- 1755 Drucker, P. F. 1998. "The Discipline of Innovation." *Harvard Business Review* 76 (6): 149–157.

- Duray, R., P. T. Ward, G. W. Milligan, and W. L. Berry. 2000. "Approaches to Mass Customization: Configurations and Empirical Validation." *Journal of Operations Management* 18 (6): 605–625.
- Engel, J., R. Blackwell, and P. Miniare. 1993. *Consumer Behaviour*. Fort Worth, TX: Dryden.
- Ernst, D. 2002. "Global Production Networks and the Changing Geography of Innovation Systems. Implications for Developing Countries." *Economics of Innovation and New Technology* 11 (6): 497–523.
- 1760 Ezzamel, M., and H. Willmott. 1998. "Accounting for Teamwork: A Critical Study of Group-Based Systems of Organizational Control." *Administrative Science Quarterly* 43 (2): 358–396.
- Feldman, M., and B. Pentland. 2003. "Reconceptualizing Organizational Routines as a Source of Flexibility and Change." *Administrative Science Quarterly* 48 (1): 94–118.
- 1765 Felice, C. 2008. *Il Mezzogiorno operoso*. Roma: Donzelli editore.
- Ferdows, K., M. A. Lewis, and J. A. D. Machuca. 2004. "Rapid-Fire Fulfillment." *Harvard Business Review* 82 (11): 104–110.
- Florida, R. 2002. "The Economic Geography of Talent." *Annals of the Association of American Geographers* 92: 743–755.
- Fogliatto, F. S., G. J. da Silveira, and D. Borenstein. 2012. "The Mass Customization Decade: An Updated Review of the Literature." *International Journal of Production Economics* 138 (1): 14–25.
- 1770 Frings, G. S. 2004. *Fashion: From Concept to Consumer*. Upper Saddle River, NJ: Prentice-Hall.
- Gagliardi, P., ed. 1990. *Symbols and Artifacts: Views of the Corporate Landscape*. New York: Aldine de Gruyter.
- Gendron, Y., and M. Barrett. 2004. "Professionalization in Action: Accountants' Attempt at Building a Network of Support for the Web Trust Seal of Assurance." *Contemporary Accounting Research* 21 (3): 563–602.
- 1775 Gibbson, M., and D. Littler. 1979. "The Development of an Innovation: The Case of Porvair." *Research Policy* 8: 2–25.
- Giertz-Mårtenson, I. 2012. "H&M – Documenting the Story of One of the World's Largest Fashion Retailers." *Business History* 54 (1): 108–115.
- Gilmore, J. H., and B. J. Pine 2nd. 1996. "The Four Faces of Mass Customization." *Harvard Business Review* 75 (1): 91–101.
- 1780 Giorgetti, C. 1995. *Brioni: Fifty Years of Style*. Florence: Cantini.
- Hammond, T., B. M. Clayton, and P. J. Arnold. 2009. "South Africa's Transition from Apartheid: The Role of Professional Closure in the Experiences of Black Chartered Accountants." *Accounting, Organizations and Society* 34 (6): 705–721.
- Hammond, T., and D. Streeter. 1994. "Overcoming Barriers: Early African-American Certified Public Accountants." *Accounting, Organizations and Society* 19 (3): 271–288.
- 1785 Hargadon, A., and B. A. Bechky. 2006. "When Collections of Creatives Become Creative Collectives: A Field Study of Problem Solving at Work." *Organization Science* 17 (4): 484–500.
- Harvey, E. 1968. "Technology and the Structure of Organizations." *American Sociological Review* 33 (2): 247–259.
- Hatch, N. W., and D. C. Mowery. 1998. "Process Innovation and Learning by Doing in Semiconductor Manufacturing." *Management Science* 44 (11): 1461–1477.
- 1790 Hauser, J., and D. Clausing. 1988. "The House of Quality." *Harvard Business Review* 66 (3): 63–73.
- Hickson, D. J., D. S. Pugh, and D. C. Pheysey. 1969. "Operations Technology and Organization Structure: An Empirical Reappraisal." *Administrative Science Quarterly* 14: 378–397.
- Jeacle, I. 2003. "Accounting and the Construction of the Standard Body." *Accounting, Organizations and Society* 28 (4): 357–377.
- 1795 Jeacle, I. 2015. "Fast Fashion: Calculative Technologies and the Governance of Everyday Dress." *European Accounting Review* 24 (2): 305–328.
- Jeacle, I., and C. Carter. 2012. "Fashioning the Popular Masses: Accounting as Mediator Between Creativity and Control." *Accounting, Auditing and Accountability Journal* 25 (4): 719–751.
- Johnson, H. T. 2002. *Relevance Regained*. New York: Simon and Schuster.
- Johnson, T., and R. Kaplan. 1987. *Relevance Lost: The Rise and Fall of Management Accounting*. Cambridge, MA: Harvard University Press.
- 1800

- Jørgensen, B., and M. Messner. 2009. "Management Control in New Product Development: The Dynamics of Managing Flexibility and Efficiency." *Journal of Management Accounting Research* 21 (1): 99–124.
- Kaiser, S. 1985. *The Social Psychology of Clothing*. New York: Macmillan College.
- Khazanchi, S., M. W. Lewis, and K. K. Boyer. 2007. "Innovation-Supportive Culture: The Impact of Organizational Values on Process Innovation." *Journal of Operations Management* 25 (4): 871–884.
- 1805 Kidder, T. 1982. *The Soul of a New Machine*. London: Allen Lane.
- Kidwell, C., and M. Christman. 1974. *Suiting Everyone: The Democratization of Clothing in America*. Washington, DC: Smithsonian Institution Press.
- Kotha, S. 1995. "Mass Customization: Implementing the Emerging Paradigm for Competitive Advantage." *Strategic Management Journal* 16 (S1): 21–42.
- 1810 Kvale, S., and S. Brinkmann. 2009. *Interviews: Learning the Craft of Qualitative Research Interviewing*. London: Sage.
- Lampel, J., and H. Mintzberg. 1996. "Customizing Customization." *MIT Sloan Management Review* 38 (1): 21–30.
- Latour, B. 1987. *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA: Harvard University Press.
- 1815 Lazerson, M. 1995. "A New Phoenix? Modern Putting-Out in the Modena Knitwear Industry." *Administrative Science Quarterly* 40 (1): 34–59.
- Loft, A. 1986. "Towards a Critical Understanding of Accounting: The Case of Cost Accounting in the U.K., 1914–1925." *Accounting, Organizations and Society* 11 (2): 137–169.
- MacDuffie, J. P. 1997. "The Road to 'Root Cause': Shop-Floor Problem-Solving at Three Auto Assembly Plants." *Management Science* 43 (4): 479–502.
- 1820 Maclean, M., C. Harvey, and R. Chia. 2012. "Sensemaking, Storytelling and the Legitimization of Elite Business Careers." *Human Relations* 65 (1): 17–40.
- Maier, E. 2014. *Coordinating Over Time: The Micro-Processes of Integrating Creativity and Control in a Dramatic Television Production*. Doctoral dissertation, The University of Western Ontario.
- Mansfield, K. 1961. "Technical Change and the Rate of Imitation." *Econometrica* 29 (4): 741–766.
- Merlo, E. 2003. *Moda italiana. Storia di un'industria dall'Ottocento ad oggi*. Venezia: Marsilio Editori.
- 1825 Merlo, E. 2011. "Italian Fashion Business: Achievements and Challenges (1970s–2000s)." *Business History* 53 (3): 344–362.
- Merlo, E., and F. Polese. 2006. "Turning Fashion into Business: The Emergence of Milan as an International Hub." *Business History Review* 80 (3): 415–447.
- Miller, P., and T. O'Leary. 1994. "Accounting, 'Economic Citizenship' and the Spatial Reordering of Manufacture." *Accounting, Organizations and Society* 19 (1): 15–43.
- 1830 Mora, E. 2003a. "Culture e mestieri dell'abbigliamento [Culture and Skills in the Clothing Industry]." In *La creatività Diffusa. Culture e Mestieri Della Moda Oggi* [Collective Creativity: Cultures and Skills of Contemporary Fashion], edited by P. Volonte, 115–182. Milan: FrancoAngeli.
- Mora, E. 2003b. "I mestieri della moda tra produzione in serie e creatività [Fashion's Professionals: Creativity and Mass Production]." In *Saperi e Mestieri Dell'industria Culturale* [Knowledge and Skills in the Cultural Industries], edited by L. Bovone and E. Mora, 69–97. Milan: FrancoAngeli.
- 1835 Mora, E. 2006. "Collective Production of Creativity in the Italian Fashion System." *Poetics* 34 (6): 334–353.
- Napier, C. 2006. "Accounts of Change: 30 Years of Historical Accounting Research." *Accounting, Organizations and Society* 31 (4): 445–507.
- Neu, D., A. Rahaman, and J. Everett. 2014. "Accounting and Sweatshops: Enabling Coordination and Control in Low-Price Apparel Production Chains." *Contemporary Accounting Research* 31 (2): 322–346.
- 1840 Orlikowski, W. J. 2007. "Sociomaterial Practices: Exploring Technology at Work." *Organization Studies* 28 (9): 1435–1448.
- Orlikowski, W. J., and S. V. Scott. 2008. "Sociomateriality: Challenging the Separation of Technology, Work and Organization." *Academy of Management Annals* 2 (1): 433–474.
- Pentland, B., and M. Feldman. 2008. "Designing Routines: On the Folly of Designing Artifacts, While Hoping for Patterns of Action." *Information and Organization* 18 (4): 235–250.
- AQ11**
- AQ12** Pine, B. J. 1993. *Mass Customization: The New Frontier in Business Competition*. Harvard Business Press.
- 1845 Pine, B. J., B. Victor, and A. C. Boynton. 1993. "Making Mass Customization Work." *Harvard Business Review* 71 (5): 108–111.

- Pisano, G. P. 1997. *The Development Factory: Unlocking the Potential of Process Innovation*. Harvard Business Press.
- AQ13** Pizzuto, J. B. 1962. *Designing and Drafting Men's Suits*. New York: Kogos International Corp.
- Poole, B. W. 1927. *The Science of Pattern Construction for Garment Makers: The Standard Textbook*. London: I. Pitman and Sons.
- 1850 Popkin, M. E. 1929. *Organization, Management and Technology in the Manufacture of Men's Clothing*. London, New York: I. Pitman and Son.
- Pulos, A. 1988. *The American Design Adventure*. Cambridge, MA: The MIT Press.
- Quant, M. 1966. *Quant by Quant*. London: Cassell.
- Quattrone, P. 2009. "Books to Be Practiced: Memory, the Power of the Visual, and the Success of Accounting." *Accounting, Organizations and Society* 34 (1): 85–118.
- 1855 Revellino, S., and J. Mouritsen. 2009. "The Multiplicity of Controls and the Making of Innovation." *European Accounting Review* 18 (2): 341–369.
- Revellino, S., and J. Mouritsen. 2015. "Accounting as an Engine: The Performativity of Calculative Practices and the Dynamics of Innovation." *Management Accounting Research* 28: 31–49.
- Richardson, J. 1996. "Vertical Integration and Rapid Response in Fashion Apparel." *Organization Science* 7 (4): 400–412.
- 1860 Robson, K. 1992. "Accounting Numbers as 'Inscription': Action at a Distance and the Development of Accounting." *Accounting, Organizations and Society* 17 (7): 685–708.
- Salvador, F., P. M. De Holan, and F. T. Piller. 2009. "Cracking the Code of Mass Customization." *MIT Sloan Management Review* 50 (3): 70–79.
- Sargiacomo, M. 2008. "Institutional Pressures and Isomorphic Change in a High-Fashion Company: The Case of Brioni Roman Style, 1945–89." *Accounting, Business and Financial History* 18 (2): 215–241.
- 1865 Schumpeter, J. 1934. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Cambridge, MA: Harvard University Press.
- Schumpeter, J. 1939. *Business Cycles: A Theoretical Historical and Statistical Analysis of the Capitalist Process*. New York: McGraw-Hill.
- 1870 Solomon, M., and N. Rabolt. 2004. *Consumer Behaviour in Fashion*. Upper Saddle River, NJ: PrenticeHall.
- Steelcase Inc. 2000. *Measuring Business Results: The Role of the Workplace*. www.steelcase.com.
- Thomson, A. 1999. "Making the Most of Memories: The Empirical and Subjective Value of Oral History." *Transactions of the Royal Historical Society* 9: 291–301.
- 1875 Tu, Q., M. A. Vonderembse, T. S. Ragu-Nathan, and B. Ragu-Nathan. 2004. "Measuring Modularity-Based Manufacturing Practices and their Impact on Mass Customization Capability: A Customer-Driven Perspective." *Decision Sciences* 35 (2): 147–168.
- Tyson, T. 1996. "Rendering the Unfamiliar Intelligible: Discovering the Human Side of Accounting's Past Through Oral History Interviews." *Accounting Historians Journal* 23 (2): 87–109.
- Utterback, J. M. 1996. *Mastering the Dynamics of Innovation*. Cambridge, MA: Harvard Business Review Press.
- 1880 van de Ven, A. H., and G. P. Huber. 1990. "Longitudinal Field Research Methods for Studying Processes of Organizational Change." *Organization Science* 1 (3): 213–219.
- Veblen, T. 1899. *The Theory of the Leisure Class*. New York: Macmillan. reprinted in 2004, Whitefish, MT: Kessinger Publishing.
- Vergani, G. 2004. *The Abruzzi Tailor's Workshop Yesterday and Today: A Tradition of Masculine Elegance*. Milan: Skira Editore.
- 1885 von Hippel, E. 2009. "Democratizing Innovation: The Evolving Phenomenon of User Innovation." *International Journal of Innovation Science* 1 (1): 29–40.
- White, N. 2000. *Reconstructing Italian Fashion: America and the Development of the Italian Fashion Industry*. Berg Publishers.
- AQ14** Woodward, J. 1958. *Management and Technology*. London: HMSO.
- 1890 Yow, V. R. 2005. *Recording Oral History: A Guide for the Humanities and Social Sciences*. Walnut Creek, CA: Rowman Altamira.

Interviews

	Interviewees' Names	Position	Number of Interviews	Total Interview Time
1895	Antonio Bianchini	Hired in 1992, as Administrative Manager, he was later Co-Ceo from 2007 to 2011 (in 2012 he left the company)	2	2 hours
	Gianfranco De Matteis	Hired in 1968 – priorly working at Monti – and acting as Production Director (retired in 2012)	11	17 hours
	Durante Di Battista	Started as a tailor in the Rome workshops in the late 1950s and later became Past Vice Chief of Quality Program (retired in 2008)	2	2 hours
1900	Enzo Fiore	Started as a tailor in the Rome workshops in the late 1950s and later became a Chief of a manufacturing section in Penne (retired in 2003)	2	2 hours
	Checchino Fonticoli	Started as a tailor in the Rome workshop in the late 1950s and later became a master tailor in Penne (retired in 2002)	5	5 hours
	Lucio Marcotullio	Originally the chief accountant and later the CEO (retired in 2006)	13	18 hours
	Antonio Santoro	Past Chief of the Quality program, recruited in 1973 from Chester Barrie, London (retired in 2005)	2	2 hours
1905				
1910				
1915				
1920				
1925				
1930				
1935				