

The London School of Economics and Political Science

**Computational Consumption: Social Media and the
construction of Digital Consumers**

Cristina Alaimo

A thesis submitted to the Department of Management of
the London School of Economics for the degree of
Doctor of Philosophy, London, July 2014

Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

The copyright of this thesis rests with the author. Quotation from it is permitted, provided that full acknowledgement is made. This thesis may not be reproduced without my prior written consent.

I warrant that this authorisation does not, to the best of my belief, infringe the rights of any third party.

I declare that my thesis consists of 85,609 words
(including footnotes but excluding bibliography and appendices).

Statement of use of third party for editorial help

I can confirm that my thesis was copy edited for conventions of language, spelling and grammar by Jonathan A. Sutcliffe.

Abstract

The abundance of social data and the constant development of new models of personalized suggestions are rewriting the way in which consumption is experienced. Not only are consumers now immersed in an information mediated context - decoupled from physical and socio-cultural constraints - but they also experience other consumers and themselves differently, embracing the prescriptions of a technological medium made by algorithmic suggestions and software instructions.

A single case study of a social shopping platform in its start up phase has served as the empirical object of this thesis. The company investigated represents a typical case in the field of data driven consumption. The case has been conducted following the company's infrastructure design and implementation for over a year. The analysis of the case has revealed the distinctive computational logic embedded in the platform system. The system uses the data produced by user selection as representation of consumer choice. On this account it structures social and individual consumption patterns and computes personalized suggestion.

This study shows that technological information and software systems disassemble traditional practices of consumption and reassemble consumers in new and unseen ways. The research investigates technology's role as a medium, by exposing and deconstructing the processes through which data aggregation and personalization mechanics reconfigure discovery, selection and experience of fashion. This thesis illustrates how consumption is now produced on the basis of social data structuration and how consumers are constructed out of data assemblages. Consumers select products they are suggested to like or expected to buy reacting to what social media platforms construct, compute, and feed back to them. Personalization allows consumers to see themselves as individual against the background of a computed sociality. Ultimately thus, the study discusses the impact of computational consumption as individuation process, considering its implications for consumer identity articulation and marketing practices.

Acknowledgements

Big thank you to all my friends for helping me maintain a quasi-normal life during this journey. Manuela deserves an individual thank you. Particular thanks go to Jamie, Flaminia, Licia, Clarissa and Davide. Your random acts of friendship have powered my writing engine. My parents, Cinzia e Giuseppe have all my love and gratitude for their constant encouragement and sustain. To my brother Mauro go special thanks for helping me take some distance from myself. Elisa thank to you too.

Luciano, I have been able to accomplish this work because of your loving presence, patience, and constant support. Thank you.

I am grateful to have been part of the ISI group at the Department of Management at LSE. I am thankful for their gracious support with the LSE Research Studenship and for the intellectual support I received during these years. Thank you to Antonio Cordella, Carsten Sørensen, Shirin Madon and to my second supervisor Chrisanthi Avgerou. I would like to thank also my colleagues and friends Maha Shaikh and Hono Honarvar and my wonderful comrades of the TIGAIR team José-Carlos Mariátegui, Aleksii Aaltonen, Niccolò Tempini, and Attila Márton for the sharing of ideas and beers. A special thank you goes to Heather Barry Kappes for providing me a space to further my intellectual adventure.

I am thankful to all the interviewees that have dedicated time to this project during its pilot phase. To the founders of the company I have investigated for over a year goes all my gratitude. Their affable openness made this study's fieldwork not only possible but also interesting and engaging.

Finally, I am particularly indebted to my supervisor Jannis Kallinikos for his advice, generosity, and trust. It has been a wonderful journey Jannis and I look forward to continue working together.

Table of Contents

Computational Consumption: Social Media and the construction of Digital Consumers	1
Abstract	3
Acknowledgements	4
List of Abbreviations	7
List of Tables	8
List of Figures	8
1 Introduction	9
1.1 Research approach	10
1.2 Research objectives	12
1.3 Thesis outline	13
2 Social Media	18
Introduction	18
2.1 A ‘user-centric’ perspective	20
2.2 A critical perspective	25
2.3 Social Media as technologies of the social	28
2.4 Conclusion	31
3 Consumption	33
Introduction	33
3.1 Consumption as a ‘modality of the social’	34
<i>3.1.1 A brief history of individuality in fashion consumption</i>	40
3.2 Managing meanings, measuring emotions	45
<i>3.2.1 Marketing: from classification to self-governing</i>	46
<i>3.2.2 Social Media marketing</i>	51
3.3 Conclusion	52
4 Theory	55
Introduction	55
4.1 A semiotic approach	56
4.2 Framing Social Media as media	62
<i>4.2.1 Databases of every day</i>	63
<i>4.2.2 A computed sociality</i>	67
4.3 Conclusion	70
5 Analytical Framework	71
Introduction	71
5.1 Social Media consumption: an analytical framework	72
<i>5.1.1 Search and Discovery</i>	74
<i>5.1.2 Selection</i>	78
<i>5.1.3 Experience</i>	81
5.2 Conclusion	84
6 Methodology	85
Introduction	85
6.1 Epistemology: constructivism and semiosis	86
<i>6.1.1 Research questions</i>	89
6.2 Research Design	90
6.3 Pilot study	91

6.4 Social Shopping Platform: a single case study	94
6.4.1 <i>Studying a tech start-up</i>	95
6.4.2 <i>Data collection and internal validity</i>	97
6.5 Corpus Construction	99
6.5.1 <i>Rules and Criteria</i>	101
6.5.2 <i>Thematic coding</i>	105
6.6 Conclusion	107
7 Case Study Narrative	109
Introduction	109
7.1 Social Shopping Platforms: an introduction	109
7.2 Background of the founders	114
7.3 Innovative Visions: ‘The future of retailing’	117
7.4 Social Shopping Technology: database, tokens and measures	119
7.4.1 <i>Product object</i>	123
7.4.2 <i>Profiling People</i>	125
7.4.3 <i>Lists</i>	128
7.4.4 <i>Actions: Tagging, Searching, Clicking and Buying</i>	129
7.5 Commercial value	134
7.6 From recommendation to personalization	137
7.6.1 <i>The Social Algorithm</i>	139
7.7 Conclusion	141
8 Analysis	143
Introduction	143
8.1 The information infrastructure of social shopping as a system of signification	144
8.1.1 <i>Premises: the social web</i>	148
8.2 Grammatization of consumption	154
8.2.1 <i>Tagging as a sign-function</i>	158
8.2.2 <i>The logic of relations: aggregation and database functionalities</i>	160
8.2.3 <i>Computation of personalized routes of shopping</i>	166
8.3 Conclusion	169
9 Discussion	170
Introduction	170
9.1 The personalized architecture of computational consumption	171
9.1.1 <i>Assisted Discovery</i>	176
9.1.2 <i>Selection</i>	181
9.1.3 <i>Experience</i>	186
9.2 Conclusion	191
10 Conclusion	192
Introduction	192
10.1 Infrastructures of the social	192
10.2 Computational Consumption	197
11 Appendix	201
11.1 Pilot Study: Major themes emerged	201
11.1.1 <i>Information abundance</i>	201
11.1.2 <i>Information processing: discovery / selection</i>	201
11.1.3 <i>Disruption of identities narratives / reconfiguration of experience</i>	202
11.1.4 <i>Pilot study: list of interviewees</i>	203
11.2 Corpus Construction Masterlist	204
12 Bibliography	209

List of Abbreviations

I have tried to avoid using acronyms except where the argument would have otherwise become cumbersome. In that cases the acronym has become the primary denomination of the concept.

ACPF – Average Click Per Follow

API – Application Programming Interface

CEO – Chief Executive Officer

ICT – Information and Communication Technology

IS – Information Systems

LSE – London School of Economics

NDA – Non Disclosure Agreement

ROI – Return On Investment

SM – Social Media

SMEs – Small and Medium Enterprises

SQL – Structured Query Language

SSP – Social Shopping Platforms

TIGAIR – The Information Growth and Internet Research

UGC – User Generated content

List of Tables

Table 1: Analytical framework of consumption.	73
Table 2: Research Design.....	91
Table 3: Pilot study broken into phases.	94
Table 4: Case Study’s different sources of evidence.	97
Table 5: Case Study’s database headline.	98
Table 6: Corpus construction roadmap.	102
Table 7: Extract of the cross-tabulation obtained from the first round of coding and sub-corpora attribution.	106
Table 8: The analytical framework of consumption revisited.	174

List of Figures

Figure 1: Screenshot of a row of the products feeds on the platform homepage.	111
Figure 2: Screenshot of the profiles’ headline and first row of products.	112
Figure 3: Screenshot of the log-in phase via Facebook.	112
Figure 4: Sketch of the database’s structure made by one of the co-founders.	122
Figure 5: The database’s conceptual structure.	122
Figure 6: Sketch of the product table made by one of the co-founders.	123
Figure 7: Screenshot of the Company’s Facebook wall.	127
Figure 8: The actions programmed by the platform.	130
Figure 9: Chart illustrating the proportion between volume of data procured by explicit actions and the strength of intent.	133
Figure 10: Screenshot of a store’s dashboard in the platform. It illustrates the tracking of consumer’s activities broken down into actions.	134
Figure 11: SSP’s system as a signification system.	147
Figure 12: The actions programmed by the platform.	155
Figure 13: The database’s conceptual structure.	163
Figure 14: The performance funnel of ‘tagging’	183

1 Introduction

The impact of information technology on our lives is hard to overlook. Almost every daily activity is now entwined in a complex web of applications, platforms, and devices. We use social media platforms and personalized suggestions to consume music, movies and television programs, to choose restaurants, to buy fashion goods, and to review hotels and reality shows (often in real time). In short, we understand and make sense of the world – at least of its consumption possibilities – through the use of technological devices. On social media (SM), software functionalities, data operations, and techniques of information ordering construct a new technological regime (Kallinikos, 2006) that mediates consumption goods, social activities and cultural processes in new and non-trivial ways. Increasingly, these methods and techniques propose a personalized version of the world, a world ‘tailored for you’ that is both descriptive and prescriptive (Ayres, 2008; Elmer, 2004; Pariser, 2011). Personalization of online content, as empowered by SM functionalities and operations, is set to solve a problem: it reduces the abundance of information available, providing criteria of relevance for individuals and groups and thus, possibilities for *reasonable* action. SM’s production of personalized information does not simply filter our access to social reality. Its technologically mediated social context also blurs the boundaries between social facts and algorithmic suggestions by encasing consumption process into a constant information feedback loop. Is social media and the personal world it creates just a fashion, a fad, or is it changing our references to the social reality of consumption? In my view, both options are worthy of investigation.

Bourdieu considered that the ‘trivia’ of life are the very stuff of sociological investigation. The mundane character of some phenomena often hides interesting possibilities to advance knowledge on social changes in selected domains. This is thus the ambition of this PhD thesis. By drawing on different scholarly traditions this study constructs a theoretical scaffolding to frame and understand SM’s technological impact on the ‘trivia’ of daily life that is then explored and refined through the empirical investigation of a SM start-up. The dissertation seeks to understand to what extent the logic of technological mediation embodied by SM intervenes and restructures the process by which individuals make sense of consumption possibilities and thus of their consumer selves.

This work started with an interest in the socio-cultural power of consumption of fashion goods – the triviality of appearance articulation – as a means for identity formation. For over a century sociological works on fashion consumption have been concerned with the social mechanics of personal individuation within society. By individuation I mean the process

through which individuals, inhabiting the social role of consumers, assemble their selves by using the symbolic marketplace resources at their disposal. With the gradual collapse of social superstructures, consumption has acquired a more prominent role as the mundane practice of asserting one's own persona with respect to group belonging and social values at large. Who we are, becomes defined by how we appear to others, which in return grants us proof of our existence in the world as individuals. Fashion is the superficial (or apparent) exercise of this controlled freedom, its timing dictated by market and socio-cultural values. Fashion consumption is the domain of appearance par excellence. Common prejudices about fashion still tend to connote it as a superficial, if not a superfluous activity, despite the fact that some of the most influential sociologists have studied fashion as a battlefield where fundamental human issues come to be negotiated. Social change, the pursuit of individuality, and the conflict between individuals and collective norms and rules are just some of the most important. The choice to study consumption, and consumption of fashion in particular, is justified essentially because fashion emphasizes some of the fundamental quests of individuals pertaining to identity building in social settings.

Consumption's symbolic exchange, the articulation of one's own identity with respect to others and to socio-cultural values, has now migrated online. SM mediates this symbolic space with personalized suggestions, data architecture and algorithm mechanics. The cultural battlefield of consumption is now disassembled into bits and pieces and represented under the logic of technological systems.

I believe that the implications of this shift towards a computational logic of representation are wide-ranging. Since an increasing part of consumption experience is lived through SM's computational operations and personalized suggestions, I believe it is worth investigating how the computational logic of SM represents consumption and presupposes consumer versions.

1.1 Research approach

This research conceptualizes SM as media and theorizes its personalization technology as system of signification implicated in the production of new forms of sense-making activities in consumption domains. This thesis is not concerned with online shopping as transactions between consumers and producers. What is of interest for the present dissertation is to understand the technological production of new ways of representing the consumption experience and consumer roles through SM and personalization systems. That is how personally relevant information describes and prescribes possibilities of understanding and

acting, and how and why those possibilities are different from previously established methods of consuming. SM and personalization not only suggest what should matter to consumers but they also presuppose models of cognitive and behavioral action. This research does not study online consumer behavior. It rather observes, analyzes and interprets how technology expects consumers to behave building these expectations into coherent technological systems. It is because SM expects individuals to perform as consumers in determined ways and not in others, I argue, that it embodies and consequently shapes the ‘appropriateness’ of being a consumer in the online world. This in turn might condition actual behaviors, and marketing and communication practices.

This research views technology as one of the main actors of sense-making activities for consumer. As with any other media (from written texts to television) SM represents reality in particular ways. SM mediates the ‘social’. All in all it does exactly what its label suggests. Its specificities rely in the fact that SM builds capacities and functionalities characteristic of technology to the representation of sociality and the standardization of its communicative forms. Because of the interest in how manifestations of the social might be technologically represented, one of the scholarly traditions this work relies upon is semiotics. By framing SM’s technological functionalities in semiotic terms this study investigates them as the new mediating infrastructures of the social. It integrates SM’s infrastructural properties with its representation capabilities. Information technology exhibits a peculiar logic of representation that is based upon data structuration and computation capabilities. If technology mediates the social it does so on the grounds of its own functioning logic, and this I believe is where important shifts can be observed. By selecting, storing, and framing data, SM intervenes in representing social life under a different logic. By studying the structural semiotic properties of the system this research exposes the logic underlying the technological mediation of social media consumption and how it might challenge the traditional socio-cultural process of consumption.

The approach taken is not common. Often SM and online consumption alike are studied by focusing on the interaction occurring at the interface level. Because of this, very little has been published with respect to the possible structuring effects of SM’s technology on social life and on ways of organizing it.

Given the type of research interest, and its focus on a complex social phenomenon that cannot easily be delimited from its context (Yin, 2009), this study is based on a two-steps qualitative empirical investigation. The first phase is a pilot study that served as both an explorative and conceptually formative step (Yin, 2009). Undertaken before the theoretical

definition of this dissertation, it led to the design of the analytical framework of consumption (presented in chapter 5) and to the refinement of the research questions (chapter 6, section 6.2). On a more practical level it also led to the selection of the company chosen as a single explanatory case study. The second phase of the research strategy is a single case study conducted on a fashion-tech startup for over a year. The company is a data driven organization interested in innovating the retailing of fashion and design goods through social data computation. It implements a social shopping platform, which is essentially based on SM functionalities and on social data extracted from general social media (Facebook and Twitter) and from its own platform's interaction. The possibility of studying a social shopping infrastructure, and its conceptualization and implementation, perfectly matched this research interests and expectations. The case study granted the possibility of analyzing the system's logic and theorizing its role as a signification system, mediating – and thus changing - the socio-cultural dimension of consumption process.

Theorizing plays a fundamental and manifold role in this study. First, theory is extensively used to construct a robust theoretical reference to frame and analyze the gathered empirical evidence. Second, it informs the qualitative methodological design and the choice of corpus construction as a data selection and analysis tool (Bauer & Aarts, 2000). Deriving from linguistic and semiotic traditions, corpus construction has been chosen because it confers an overall coherence to the study, providing the connection between theoretical constructs, empirical data, and interpretations of findings. Third, the findings are interpreted and developed into theoretical contributions as they provide the hypothetical mechanisms able to conceptually explain how the system's structure actualizes events as personal information. The hypothetical mechanisms I am referring to are the system's principles of ordering data and producing information (value): the SM's logic of consumption representation.

1.2 Research objectives

This dissertation contributes to the Information Systems (IS) literature by investigating the role of technology in ways of representing consumption processes and consumer roles. This project provides an important opportunity to advance the understanding of SM's structuring effects on sociality qua consumption. The focus on the shaping nature of technology places the contributions of this research within the field of the social study of ICT. In particular, this dissertation is part of 'The Internet Growth and Information Research' (TIGAIR) project and building on extant research, it continues the aims and objectives of the program. TIGAIR studies the social and institutional implication of information growth, by unraveling the distinctive logic of SM, this project contributes to the understanding of the social

implications of SM's information production and dissemination. The study offers some important insights into the consequences of an increasing socialized web. Thereof it contributes to the nascent fields of social media studies. SM makes the web social and the social technical (van Dijck, 2013), the empirical findings of this study provide an explanation of how the logic of SM makes the socio-cultural mechanics of consumption technical.

In a recent newspaper article on Google and its rapid rise to power Shoshana Zuboff quotes Norbert Elias' extended essay "The Loneliness of the Dying". Elias defines dying as a largely unformed situation – a blank space – that occurs when "earlier meanings and practices no longer apply, but new ones have yet to be created"¹. I see the contribution this research offers to the sociology of consumption and social identity literature as a conceptual passage cutting through the still unformed space where old cultural roles are dead but new roles are still not consolidated. The mediating space that comes to be regulated by structural properties of data architecture and computational rules is a transformative space. The logic exhibited by the system's functioning impinges upon traditional representations of consumption, changing its logic, its method of accessing knowledge, and its social role. SM's technology embeds presuppositions on consumers - ways of being consumers, and knowledge on consumers. On these yet to be consolidated technological presuppositions in turn, it is very likely that a new social role of consumers will emerge, conditioning actual consumer behaviors, marketing practices and communication strategies.

1.3 Thesis outline

This thesis is structured as follows. The present chapter introduces the reader to the motivation and scope of the research. It also provides a short outline of the theoretical approach of the dissertation and of its main contributions.

Chapter 2 reviews the literature on social media. The review is organized around the main themes of self-presentation and social participation. By comparing a 'user-centric' and a 'network-centric' approach the chapter singles out limitations in the current understanding of the SM phenomenon. The majority of the contributions reviewed under the 'user-centric' model do not go beyond the level of interaction SM technologies sustain. By contrast the 'network-level' approach frames SM as a site of power, it however does not adequately consider how SM gets also involved into the social and psychic life of its users. A third

¹ Zuboff, S. *Dark Google*, Feuilleton, Frankfurter Allgemeine, 30/04/2014 see: <http://www.faz.net/aktuell/feuilleton/debatten/the-digital-debate/shoshanna-zuboff-dark-google-12916679.html> (Last Accessed 12/06/2014)

strand of literature, focused on ‘SM as technology of the social’, represents a middle-range approach. It proposes an integration of specific SM technological functionalities with facets of social life. The contributions in this section are reviewed critically to assess how SM functionalities impact on modalities of the social, opening a fruitful path for our investigation.

Chapter 3 reviews the literature on consumption. The chapter defines consumption as a socio-cultural process and singles out social and symbolic mechanics of consumption exchange. The literature traces the contours of the knowledge space of consumption, a cultural battlefield where agencies of meaning and cultural codes regulate consumer quests of identity. The review serves to open consumption’s knowledge space to the analysis. If SM conditions major changes in consumption, it is very likely that it does so by changing the language and logic of exchange (how value is produced) and, consequently, the role of the agencies of meaning involved. A second section is dedicated to the concept of individuality constructed by the fashion system. It shows how consumption logic gradually migrated into the symbolic dimension of consumer self-articulation. A final section provides examples of how this self-regulation has been managed by marketing. The section critically examines how marketers have fostered a culture of personal involvement of consumers in consumption processes and discusses recent marketing approaches against the common understanding of SM. The brief discussion endorses the need for an alternative approach to SM. If one wants to understand the novelty of SM mediation of consumption, one should ask how the very logic of consumption might be conditioned by technological representation.

Against the backdrop of these considerations, Chapter 4 proposes the problematization of the SM mediation of the social by framing it under a semiotic approach. The aim of the chapter is to build a theoretical understanding of SM’s technological regime of mediation. Semiotics allows the conceptual analysis of the distinctiveness of SM’s technological representation of consumption. Drawing from Umberto Eco’s theoretical work, the chapter defines the concept of a sign, an interpretant, and an interpreter. The aim of this dissertation is to lay bare technological operations and processes that produce personalized information as new conditions for a meaningful act of individuation. By unpacking the production side of information and how it presupposes consumption (what Eco calls pragmatic of signification) the study problematizes the act of interpretation (consumption) and the role of interpreter (consumer). Drawing from the ontological and theoretical positions delineated in the first section, the following sections delve into the characteristics of SM as media. SM displays a lack of neutrality in mediating the social, which starts from its own logic of sorting, storing

and framing data. The chapter considers some of the most interesting characteristics of SM's databases. A final section questions the process of formalization that SM's databases require in order to function. SM's databases do not store facts but representations of facts. In the technological operations SM carries out, social data – the byproduct of SM's social interaction – stands for the social participation SM programs. SM produces personalized information on the basis of a computed sociality. Following Kallinikos's computational rendition of reality (Kallinikos, 2009) I argue that the current development of SM's participatory activities calls for a theoretical reconsideration of the relationship between social interaction, computational mediation, and the resulting new forms of social consumption.

Building on the theoretical scaffolding of the previous chapter and on the results of the pilot study undertaken, Chapter 5 proposes an analytical framework, which is used to analyze the consumption experience SM presupposes. The need for a conceptual framework arises from the gap identified in reviewing the literature on SM. Little has been published on the manner in which SM functionalities might condition the experience of consumption. Therefore the framework decomposes consumption in three moments: 'search and discovery, selection, and experience', and compares established socio-cultural mechanisms with novel online functionalities. The three moments of consumption seem to undergo a technological mediation that suggests reconsidering how consumption might be represented and acted online. Online socio-cultural contexts and norms become undergirded by the presence of a computed sociality and the constant feedback loop which personal information initiates.

Chapter 6 illustrates the research's epistemological foundations, research object, and the methodology used. The empirical investigation is theory driven: it not only relies on a strong theoretical scaffolding but it also aims at contributing theoretically to the understanding of the SM mediation of social life. The chapter discusses what to expect from a research project interested in the reality of signs. The first section delves into the epistemological foundation of the dissertation. The epistemology lays down the foundations of the research strategy that is designed to allow relevant themes and their interaction to emerge from the empirical case. It is by observing the structuring properties of empirical evidence that the analysis infers the 'hypothetical mechanisms' able to explain the phenomenon under study. By which I mean the distinctive computational logic of value production (personal information) in online consumption domains. A two-phase qualitative research design has been adopted. The explorative pilot phase served to refine research questions and to build the conceptual framework. The pilot phase also led to the company chosen as a single case study. The company is a start up, a new data driven organization interested in innovating retailing of

fashion and design goods by using social data and SM's functionalities. The company founded a social shopping platform (SSP) that has provided the context for the study undertaken. The chapter describes the tools used for data gathering, selection, and analysis. It delves into the description of the corpus construction technique, a methodological tool that allows a continuous feedback between theory, empirical data, and emerging themes. As Barthes says, it makes 'structure' immanent by way of grouping unknown elements under a known category (Barthes, 1967). It means that corpus construction functions as a structure, thus by grouping scattered elements under known categories, it makes data interrelation visible. In so doing, the structural interplay of data similarities and differences favours the emergence of themes relevance. Ultimately it allows one to theorize those 'hypothetical mechanisms' able to explain the phenomenon studied.

Chapter 7 is the case study narrative. It describes the company's aims, history, and visions. The chapter is a detailed account of a data driven organization. By relying on thick description it constructs a flowing narrative of the company's main business operations and the platform's system functionalities. In particular the section dedicated to the system's infrastructure describes the object of the present dissertation that subsequent chapters will analyze and discuss as a system of signification.

Chapter 8 proposes an analytical interpretation of the system's infrastructure as a signification system. Its main aim is to lay bare the logic by which the system produces personal information as meaningful events. Structural semiotics is used to read how the logic of sorting, storing and selecting data decomposes the socio-cultural process of consumption under digital rules. The main argument outlined in this and the following chapter is that the infrastructure of social shopping as system of signification creates the technological conditions whereby relations between the social and the personal are refigured. SSP operations differ from traditional commercial spaces in radically reframing the social process of consumption. By reordering product data, social data, and personal data under its own rules, the system disassembles social consumption into data language and reproduces consumers as data assembled from socialized product data. The technological criteria of information ordering are the basis of my argument. By unraveling the logic of data language, its structure and relations I explain how personal information is produced.

Chapter 9 discusses how the system's logic structures the online experience of consumption and presupposes consumer versions. The chapter exposes how the knowledge space of consumption is undergirded by technological functionalities and data language. By referring to the analytical framework of consumption earlier elaborated, the chapter argues how each

of the three moments of consumption is now structured by the computational logic of the system. The logic of computation mediates the access to the knowledge space inhabited by symbols and meanings, changing the conditions by which consumption might be experienced and consumer roles might be inhabited. Whereas chapter 8 exposes the system's logic, anchoring the analysis to structural semiotic principles, this chapter discusses consumption experience and consumer roles by referring to the pragmatics of signification, what is defined as “the entire presuppositions entitled by the message” (Eco, 1979). ‘Assisted discovery, selection and experience’ are presupposed under the technological regimes of indexing, aggregation and computation. I discuss how the shift in the logic of consumption representation might condition marketing practices and consumer self-articulation. Computational consumption, by attenuating the links between meaning agencies (the social and the personal), is already producing specialized mythologies, new practices, and a new (albeit still not consolidated) role for consumers.

Chapter 10 concludes the dissertation summarizing its contribution, at the same time as it considers some of its limitations.

2 Social Media

Introduction

This chapter reviews the Social Media (SM) literature. Given the complexity of the relatively new phenomenon and its still fragmented scholarly production, the review is organized around the core themes of self-presentation and social participation. Such organization responds primarily to the interests of the present dissertation. In fact, the experiences of social- and self-representation, as we will see in subsequent chapters, are fundamental for the understanding of possible changes in the experience of consumption. Furthermore, the thematic arrangement adopted allows the review to expose critical points in different scientific contributions and to expose the gaps in the SM literature.

In 2014, Facebook, the major social media platform, turned ten years-old. The corporation has reached 1.23 billion web users and 1 billion mobile users a month². Recent Facebook's acquisitions include Instagram, one of the leading photo-sharing platforms (200 million active users³), for \$1 billion, and WhatsApp – a mobile messaging service – for \$19 billion (465 million active users). In March 2014, while this review was still in progress, Facebook bought Oculus Rift virtual-technology. Mark Zuckerberg – Facebook founder and CEO - considers virtual reality technology, like the Oculus Rift headset, as devices which let users *experience the impossible*. He writes on his Facebook page that immersive gaming “will be just the start”, and any other experience - educational, social, or cultural - will be transformed so as to give users the “real presence”. Zuckerberg states: “By *feeling truly present*, you can share unbounded spaces and experiences with the people in your life. Imagine *sharing* not just moments with your friends online, but entire *experiences* and adventures”⁴ (Emphasis added).

The mediation of social life is what these platforms aim at achieving. Social Media involves the social and psychic life of its users (Lovink & Rasch, 2013), encompassing macro social communication changes and the business of advertising and marketing. Although a considerable amount of literature has been recently dedicated to SM, the published research still makes the contours of a coherent picture problematic to attain. Many studies in the field of SM, for example, only focus on the behavioral consequences of SM use. So far, however,

² See: <http://www.ubergizmo.com/2014/03/facebook-announces-1-billion-monthly-active-mobile-users/> (Last Accessed 14/4/14)

³ See: <http://www.cnet.com/uk/news/instagram-passes-200m-active-users/> (Last Accessed 14/4/14)

⁴ See: <https://www.facebook.com/zuck> Posted on the 25th March 2014 (Last Accessed 14/4/14)

there has been little discussion about the role of SM technology in influencing such behaviors. Yet, SM technological infrastructure and functioning appear to be central in today's socio-communicative discourses. SM can condition processes and practices of organizing and experiencing communication in different areas of socio-cultural life. Users, media institutions, and infrastructures have been indissolubly related to each other and to macro social changes (Couldry, 2012; Kittler, 2013; van Dijck, 2013). In this respect however SM seems to mark a change. By operating in a constant anticipation of possible future scenarios, the rapid growth of SM leaves outside large part of society, and it seems to impose its own pace to entire economic and social sectors such as consumption, marketing, advertising, communication and broadcasting industries.

It comes as no surprise therefore, that scholarly accounts of SM struggle to keep the pace with the developments with which social media is associated. This research project is concerned with SM's influence on the way in which consumption is organized as an experience. One of the hypotheses that underlies this project is that SM remediates social experience by proposing yet a new model of 'ideal user'. Therefore this research investigation also concerns how SM might partake in delineating and ultimately shaping a new *type* of consumer-user. Although extensive research has been carried out on SM's experience, no single study exists which investigates the relationship between SM and its mediation of consumption experience. In what follow I thus synthesize and frame related SM research so as to serve the gradual development of this project's main ideas.

This chapter is divided into two main sections. The first section subsumes a range of different approaches from different disciplines and theoretical backgrounds under a 'user-centric' perspective. Central to the entire paradigm is the concept of user identity and social interaction from the user's point of view. Under this proposition SM is generally considered as a neutral platform aiding human interaction, self-performance and new communicative practices. The second section summarizes the contributions that adopt a critical perspective of SM. Drawing from political economy approaches, media and software studies, these works aim at unpacking SM as a site of power struggle. Under this paradigm social participation and user self-performances are induced to harvest user data production and to foster commercial purposes of SMs. SM platforms are viewed principally as for-profit businesses, centered on user data collection. As Scholz argues:

"The social web appears to be free for us to use, but there are hefty social costs; oligarchs capture and financialize our productive expression and take flight with our data. We, the 'users', are sold as the product. The loss of our privacy, with all its psychological and political consequences, buys us the convenience of 'free', innovative services. All of life is put to work, unfairly harnessing implicit participation for wild profits" (Scholz, 2013, p. 2).

By contrasting the two views, this chapter seeks to delineate a conceptually rich portrait of SM. The two sections contrast micro approaches to interaction against macro structural properties that SM exhibits. It is however clear that “[d]ismissing social media as neutral platforms with no power is as implausible as considering social media the bad boys of capitalism” (Lovink & Rasch, 2013, p. 11). The majority of contributions fail to resolve the contradiction between users' ‘empowerment’ and ‘exploitation’. Section 2.3 reports studies that analyze how SM produces new forms of social communication starting from SM technological and infrastructural properties. The section thus aims at highlighting a possible ‘middle-ground’ approach to SM, represented by the growing number of publications that critically engage with the technological production of social life. A final section summarizes the main themes which have emerged and paves the way for the subsequent investigation.

2.1 A ‘user-centric’ perspective

Under the ‘user-centric’ approach, the majority of scholarly production on SM centers around the notion of self-performance, social connection and user-generated-content as empowering user voice and social participation. The phenomenon of SM is commonly framed as the possibility to connect with others and to enact an online version of the ‘self’. This branch of literature on SM views it mostly as sites where users are empowered with a new ‘networking’ practice, and are consequently engaged with different possibilities of self-performance. Under this paradigm, which often refers to SM as Social Networking Sites (SNS), the attention is focused on the new ‘virtual’ social and personal space designed by the possibilities of interaction SM sustains. In a seminal contribution, danah boyd and Nicole Ellison defined Social Media as “web-based services that allow individuals to (1) *construct* a public or semi-public *profile* within a bounded system, (2) *articulate a list* of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (boyd & Ellison, 2008, p. 2, Emphasis added). This definition – widely adopted in subsequent studies – has the effectiveness to stress two of the major changes brought about by SM: the construction of a profile as self-presentation, and the ‘active engagement’ of users in articulating their social networks.

Drawing from previous contributions and from early analysis of Internet-induced behavior, the ‘user-centric’ literature on SM predominantly explores its networking capability and related effects. The literature focused on SM as stages tends to associate SMs with online dating profiles and MUDs (Multi Users Domains) insofar as they constitute places where users are aware of representing their ‘multiple selves’ through impression management

(Schlenker, 1980), self-presentation (Goffman, 1956), and friendship performance (Stone, 1991; Waskul & Douglass, 1997). Marwick (2005, quoted in boyd & Ellison, 2008) finds that users have complex strategies for negotiating the rigidity of a prescribed profile, and are negotiating an *authentic* self. Meanwhile boyd argues that: “profiles could never be *real*” (boyd and Ellison 2008, p. 218). SM profiles become the online identity through which users access and experience the Internet and perform themselves. Online users can claim to be whoever they wish (Pearson, 2009). Online identities as profiles are unique pages where one can “type oneself into being” (Sundén, 2003, p. 3). “Now, the general public plays virtual dress-up every day, privately but zealously developing a virtual personality” (Heaton & McLellan, 2008, p. 6). Various studies attempt to correlate the possibility of modulating a selective presentation (and consequent representation) of oneself to a self-esteem increase (Ellison, Steinfield, & Lampe, 2007; Gonzales & Hancock, 2011; Mehdizadeh, 2010). They suggest that the absence of real life contexts facilitates the ‘filtering-in’ of positive notions about one-self and consequent ‘filtering-out’ of negatives. Drawing from different methodologies, several contributions seek to explore the relationship between the online perceived freedom and strategies of self-presentation. Although the conclusions emerging from this stream of studies are hardly unequivocal, they provide a rich terrain for questions and future analysis. Some authors argue that SM facilitates the articulation of a ‘possible self’, others insist on the occurrence of a ‘true self’ (Bargh, McKenna, & Fitzsimons, 2002), others delineate a ‘hoped-for possible self’ (Zwier, Araujo, Boukes, & Willemsen, 2011), and finally others speculate on the possibility that Facebook activates the ‘ideal self’ (Gonzales & Hancock, 2011).

In contrast to a positive view of SM as ‘liberating’ self-expression, Langlois suggests that SM might favor the construction of a ‘false self’, which arises when external pressures need to be met (Langlois, 2013b). Indeed SM somehow breaks with ‘real life’ context-based modalities of self-presentation. All the various notions of possible, ideal, hoped-for, false, or true self mark a difference with offline modes. In general, the literature reveals the difference between offline and online ‘mode of sociality’, but without explaining SM mediating properties that might condition differences to arise (Bargh et al., 2002; McKenna, Green, & Gleason, 2002). In contrast with a general understanding of ‘online freedom’ Davis finds that online identity articulation is constrained by different ‘spheres of obligation’ that are related to social norms and rules (Davis, 2012). The perceived online freedom in self-presentation might increase ‘self-modulation’ but it clashes with a set of pre-established social norms and rules that - albeit loosely perceived online - are still present. Sherry Turkle was probably the first scholar to point out the shift in self- and social-perception brought about by the Internet’s different ‘levels of reality’ (Turkle, 1995, 2011). In her words,

“[m]ultiplicity is not viable if it means shifting among personalities that cannot communicate” (Turkle, 1995, p. 258). She remarked how the perceived freedom might have negative consequences in articulating an increasingly fragmented self. How does SM technology afford this articulation of multiple selves? Self-presentation, social connection and sharing are all intertwined to a deep search of meaning and recognition (Turkle, 2011). Langlois affirms that “the constant linking that happens through social media gives very little space to pauses, constructive breakdowns, and the creation of new ways of seeking reassurance from the world” (Langlois, 2013b, p. 57).

A real time virtual sociality often overlaps with a physical world that becomes just one of the possibilities for experiencing social connections and presenting one self. Gergen describes us as struggling with the “challenge of absent presence” (Gergen, 2002, p. 227), arguing that we prefer to engage with online contacts despite the ‘real life’ proximities of partners. Baym argues that the disconnection between physical presence and communication, if offering us more control, also subjects us to new forms of control (Baym, 2010). Part of the ‘user-centric’ literature, drawing from the ‘dramaturgical’ framework postulated by Goffman (1956), has sought to individuate major changes in self and social presentation strategies. However as Jurgenson and Ray rightfully remark, Goffman effectively stressed the power of ‘social prescription’ and how it conditions self-presentation. Meanwhile SM literature seems rather focused on remarking on the creation capabilities users are endowed with, overlooking the fact that users are more often than not just selecting between few options (Jurgenson & Rey, 2013). Rather, on SM different conditioning factors close the choices users are confronted with into a set of social and technological determined frames. Although the majority of ‘social interaction’ literature sketches a fertile view of socio-individual behavioral effects, it does not seem to provide detailed accounts on how SM technological infrastructural principles, as well as its technological specificities, might trigger these effects.

SM not only provides an alternative space for self-articulation, it also juxtaposes once separated spaces and times of communication in a constant flow of conversation. On SM platforms two levels of conversation - the asynchronous one-to-many and synchronous one-to-one - are entwined in a continuous stream. On the technologically-mediated stage, differences between the private and public realms of communication are rapidly disappearing. Some scholars claim that the shifting boundaries between public and private communication might very well bring innovative possibilities for personal and social identity formation (Papacharissi, 2010).

“Facebook helps you connect and share with the people in your life”⁵, this simple slogan exemplifies the foundational principles of SM self-articulation: the connection with people in your life is maintained and constantly reinforced by *sharing*. Different kinds of media (video, images, texts, and sounds) are used to articulate profiles within the socially-mediated space. The change thus pertains not only to the private-public former division of communication. It also concerns the convergence of different modes of communication and the merging of former mass, interpersonal and peers' communication channels. As boyd and Baym observe, the change in communication more generally involves what ‘public’ means and how it differs from ‘audience’⁶. In this sense users should be seen as performers and audiences at the same time. SM is a disembodied mediated and controlled space where display of performances occurs (boyd, 2010): “online both audience and performer are disembodied and electronically re-embodied through signs they chose to represent themselves” (Pearson, 2009, p. 5). According to Ellison et al. online acts of storytelling are always ambiguous and also dependent on technical affordances, which constrain self-presentational choices (Ellison, Hancock, & Toma, 2012; Marwick & Ellison, 2012). However the analysis of ‘signs of representation’ and technical affordances are often overlooked. The attention is rather focused on self-presentation practices that, in the above quoted study for example, are framed as ‘promises’ made to an ‘imagined audience’ (Ellison et al., 2012, p. 56). Notably, the work concludes that the sense of identity online becomes flexible albeit not ‘fundamentally different’ from real life situations. Whereas the very notion of an imagined audience (Baym & boyd, 2012; Marwick & boyd, 2011) seems to undergo a considerable change online. The imagined audience is understood as: “the mental conceptualization of the people with whom we are communicating, our audience” (Litt, 2012, p. 331). With SM the mental conceptualization of audiences are not anymore bounded to social clues. Social contexts collapse, and consequentially “navigating collapsed contexts requires a wide variety of strategies. While some people seek to engage in strategic *facework* and minimize visibility, others seek to publicize themselves in ways that may complicate their relationship to different members of their audience” (Baym & boyd, 2012, p. 324).

As various contributions have demonstrated, the majority of users do not seem to engage in active participation. On the contrary they are predominantly ‘lurkers’, or passive spectators (Baym, 2010; Bechmann & Lomborg, 2012). How does the diffused notion of active self-presentation explain the majority of user behavior? Still, the majority of studies focus on the active involvement of users. The ‘new visibility’ of social and personal connections, the new

⁵ It is the slogan displayed on Facebook homepage. See <http://www.facebook.com> (Last Accessed 14/4/14)

⁶ They start their reflection from an interesting article appeared on the Huffington Post, titled ‘The people formerly known as the audience’. See: http://www.huffingtonpost.com/jay-rosen/the-people-formerly-known_1_b_24113.html (Last Accessed 14/4/14)

'semi-public' domains of social life, and the influence on self and social identity construction are considered as the main areas changed by SM. Understanding users' interaction and the effects it has on self- and social-perception is surely relevant but, if it does not connect to SM's structural social and technical properties, it fails to acknowledge the main challenge that SM posits to the 'social' and the 'personal' sphere. As Jurgenson and Rey allege, the common story is that SM's new public visibility comes at the expenses of privacy, however: "privacy and publicity are deeply intertwined, mutually reinforcing, and perhaps both increasing as digital information grows more ubiquitous" (Jurgenson & Rey, 2013, p. 62). Social interaction, self-presentation and visibility are conditioned by SM functioning. What we see and how we are seen on Facebook is empowered by data work, data architecture and algorithm functioning. In turn, the more we perform, the more Facebook tunes its own functioning on the data we make available with our usage. How can we measure SM's influence on self-perception without considering how SM constructs the possibilities of interaction with one's self-presentation and others' presentation in the first place?

Facebook is known for flattening different typologies of social connections in an all-encompassing notion of 'friendship'. On SM the interplay between different factors such as social norms and categories, and personal motivation emphasize user interaction with audiences that, lacking social contexts and clues, are mostly imagined. Interestingly, what emerges from the studies reviewed, is that one of the most widely adopted strategies to 'confirm' the effectiveness of one's own network articulation is the 'number of friends' gathered (Kim & Lee, 2011; Lee, Moore, Park, & Park, 2012; Wilcox & Stephen, 2013). It is Facebook's friend number, which confers the 'social status' of a well-connected individual conditioning self-performance. As van Dijck suggests, in the offline world, the effectiveness of communication was ensured by the quality of connections, thus by the quality of responsiveness of one's own network (van Dijck, 2013). Today's SM world instead pushes categories such as 'friends' or 'followers' to be assessed only by their size (Vallor, 2012).

"From the technological inscription of online sociality we derive that connectivity is a quantifiable value, also known as the *popularity principle*: the more contacts you have and make, the more valuable you become, because more people think you are popular and hence want to connect with you" (van Dijck, 2013, p. 13).

Friendship online becomes quantifiable, declared, formalized and made public. It becomes a performative act, which responds to specific indications: "if one declares someone to be one's friend, one in a certain sense makes him or her a friend, and forces her or him to be one. Yet, it would seem that if there is something essential to a friendship-based relationship, it is precisely to escape formalization and publicity" (Stiegler, 2013, p. 21).

Consistent with the observed ambiguity of ‘friending’, Langlois infers that such conceptual destabilization demonstrates the importance of software-based processes in the unfolding of everyday practices (Langlois, 2013a). The issues van Dijck, Stiegler, and Langlois raise expose what can be arguably considered as the missing link between technology and social categories, which a ‘user-centric’ analysis often fails to acknowledge. I believe that this space is exactly where a possible fruitful explanation of SM influence on social life can be performed and consumption understood at a deeper level. However to connect SM properties to possible social changes, another passageway is needed. Next I review a different stream of literature that problematizes the notion of sociality conveyed by SM’s rhetoric of participation.

2.2 A critical perspective

As Kennedy remarks, SM platforms are also cultural intermediaries. SM is a site of power that participates actively in the construction of subjects through – for instance – the rhetoric of participation, sharing and socialization. “Good subjects post, update, like, tweet, retweet, and most importantly, share” (Kennedy, 2013, p. 130).

Effectively, the formation of online communities is actively facilitated by exploiting discourses on participation and the representation of groups’ characteristics such as commonalities of interests, values or opinions. SM platforms are a: “group of Internet based applications built on the ideological and technological foundation of web 2.0, that allow the creation and exchange of user generated content” (Kaplan & Haenlein, 2010, p. 60). User-generated content and social participation are the central tenets of much of the literature on SM’s new forms of sociality. Certainly Kaplan and Haenlein have a point, and they remark that the tightly coupled ideological and technological foundation of web 2.0 has been paramount for communicating SM’s new forms of sociality and social participation. As Berners-Lee suggests sharing information has been the dream of the early Internet (Berners-Lee & Fischetti, 2008). Likewise, Kennedy remarks, sharing is both part of the discourse and of the infrastructure of SM.

“Principles of Web 2.0 rhetoric are centered around participatory practices such as information distribution, interoperability between interfaces and systems, and user-centered design which optimizes design choices around the end user’s perceived needs and desires. Essential to this rhetoric are attributes of openness, freedom for users to participate, and collective intelligence” (Kennedy, 2013, p. 132).

The concept of social participation, users’ active production of content, and the related discourses of democratization, empowerment and social change are essential to understand how SM filters possibilities of usage. SM discourses are also relevant to unpack what kind of transformative power SM might hold in motivating self-performance (Shirky, 2009;

Surowiecki, 2005). In particular, the role of user as producer (Bruns, 2008; Jenkins, 2006) sustains and maintains a large part of the participatory rhetoric produced around SM. Users are pushed to produce more information about themselves not only by platform functionalities and language, but also by producers and marketers. “These sites are pointless without audience participation” (Mandiberg, 2012, p. 1). Participation intended as production, sharing and constant updating of information, constitutes SM experience. Mandiberg continues that “in order to experience the site you have to become a media producer” (Mandiberg, 2012, p. 4). User participation grants SM the possibility to act as medium.

“The growth of social media platforms was (and still is) often innocuously conflated with the rise of Web 2.0, and the participatory potential of social media (...) Words like ‘interactivity’ and ‘participatory’ described Web 2.0’s potential to ‘talk back’ and send messages instantly, whereas previous media had wielded power over their one-way publishing or broadcasting channels” (van Dijck, 2013, p. 9).

Jenkins optimistically states that “our media future could depend on the kind of uneasy truce that gets brokered between commercial media and collective intelligence” (Jenkins, 2004, p. 35). However, the increasing control of a few players, such as Facebook and Twitter, in the SM-scape raises some doubts about the negotiating power of collective intelligence. Mirroring these concerns, Langlois for example questions the role of corporations and their software platforms in the closing off of participatory media (Langlois, 2013a).

Social media platforms explicitly and strategically make *sharing* and *connecting* with friends the central principles of a new participatory culture able to promote social innovation. SM positions itself as enabling *sharing* for the purpose of community development and self-creativity. Proponents of a critical perspective frame SM discourse of sharing as instrumental to “obscure a proprietary control of data and labor” where “sharing is the engine of data” (Kennedy, 2013, p. 131). Sharing thus is purposely sustained to engage users as producers of content (John, 2013). By sharing, users produce content as data on their selves. Sharing constitutes one of the central pillars of the conceptual framework of SM functionalities elaborated by Kietzman et al. Such a framework is designed as a honeycomb of several building blocks⁷ around the issue of ‘identity’ where SM functions because it is suggested that users reveal information about themselves, their preferences, tastes, and feelings in a conscious or unconscious constant ‘self-disclosure’ (Kietzmann et al., 2011). Different contributions attest that the socio-psychological power of sharing our lives with friends and acquaintances is decisive in overcoming barriers of skepticism and prudence in revealing private facts and opinions (Beldad, de Jong, & Steehouder, 2011;

⁷ Others are: presence, sharing, conversation, groups, reputation, and relationships (see Kietzmann, Hermkens, McCarthy, & Silvestre, 2011).

Krasnova, Spiekermann, Koroleva, & Hildebrand, 2010; Stutzman, Capra, & Thompson, 2011). The power of sharing is further bolstered by the fact that a growing number of SM applications now *automatically* share our habits by default⁸. As Manuel Castells writes: “In our society, the protocols of communication are not based on the sharing of culture, but on the culture of sharing” (Castells, 2009, p. 126). Self-expression, connections with the people you love and sharing are all part of the core messages behind social media's ‘social agenda’.

Participatory discourses create user expectations and behaviors and at the same time hide a tension between the motivation of users and the effective functionalities of SM. Sharing, participation, and connectivity promoted by SM have evolved into a ‘valuable resource’. As van Dijck suggests, it is the capacity of coding those particular forms of sociality that has brought about the profitability of user-generated content (UGC) to serve SM markets (van Dijck, 2013, p. 4). ‘User-generated content’ is still considered as the main empowering capability of SM. The ‘user-centric approach’ reads it as one of potentialities of new media in personal and social development. By contrast, the critical ‘network-centric’ approach presented here sees UGC as part of the SM power discourse. Meanwhile the user-centric perspective analyzes participation and self-performance as the main empowerments of SM systems, the industry-centric perspective underscores that this is exactly the ‘usage pattern’ that SM requires in order to function and to sustain its own business. “What - from the ordinary user’s perspective - is value creation in terms of social belonging is - on the flip side - economic benefit and thus value to Facebook” (Bechmann & Lomborg, 2012, p. 11). A large volume of published studies increasingly frame SM’s users as exploited. As McKenzie Wark provocatively remarks: “We get all the culture; they get all the revenue” (Scholz, 2013). In a renewed attention to the engines of value production a stream of political economy critique on SM has focused on the exploitation of users’ labour both as data producers and data-information consumers. Consider for example:

“When you are logged in Facebook collects a timestamped list of the URLs you visit and pair it with your name, list of friends, Facebook preferences, email address, IP address, screen resolution, operating system, and browser. When you’re logged out, it captures everything except your name, list of friends, and Facebook preferences. Instead, it uses a unique alphanumeric identifier to track you”⁹.

Tiziana Terranova was one of the first to investigate the contradictory status of users as free, and exploited at the same time (Terranova, 2004, 2006). Michael Zimmer explains that as users, the promise of online participatory media is that we can be free to express ourselves both from a cultural, political, and economic perspective, but this freedom comes

⁸ Brooker, C. *I'm all for sharing, but why the online obsession with revealing every detail of your life?*, The Guardian, January 29, 2012 (Last accessed 25/03/12)

⁹ Dylan Love, *Here's the Information Facebook Gathers on You as You Browse the Web*, Business Insider, 18 November 2011, <http://www.businessinsider.com/facebook-tracking-2011-11> (Last Accessed 3/4/14).

at a cost in terms of further placing ourselves within networks of surveillance, marketing, and advertising (Zimmer, 2008).

In a recent contribution, Gillespie reinforces the critique of SM by tracing the evolution of the term 'platform'. Commonly coupled with SM, the concept of 'platform' has come to signify the leveraging property that SM has for users: "a device that props a speaker up and makes her or him audible and visible to others" (Langlois, 2013b, p. 58). Introduced by Tim O'Reilly "in a classic O'Reilly style", as Gillespie provocatively remarks, the term has been mutated by computational lexicon and adapted to carry a "cyber-political sense of liberty and an info-business taste of opportunity" (Gillespie, 2010, p. 352). What the term conceals is instead the specificity of SM functions; in contrast to the neutrality of the possible activities that SM platforms sustain, their functions are never neutral. Thus the term 'platform' suggests an egalitarian arrangement despite the fact that its mediating functionalities, such as the power of visibility and the modulation of control, are still platform-owned. Gillespie concludes sustaining that "despite the promises made, 'platforms' are more like traditional media than they care to admit" (Gillespie, 2010, p. 359). Even if true in some sense, Gillespie's conclusion doesn't portray the complete picture of what these platforms are doing. In order to add another layer to different visions of SM, the next section offers a third perspective to frame SM's remediation of social life.

2.3 Social Media as technologies of the social

A growing body of literature has adopted a more technology-centric approach to investigate the mediating capabilities of SM. In particular some have investigated the relationship between SM-specific functionalities and social communication (Beer, 2009; Bucher, 2012; Gerlitz, 2012; Gerlitz & Helmond, 2011, 2013; Langlois, 2011; Langlois & Elmer, 2009; Langlois, Elmer, McKelvey, & Devereaux, 2009).

Drawing from contributions in the field of software studies (Berry, 2011; Dodge & Kitchin, 2009; Fuller, 2003; Fuller & Goffey, 2012a, 2012b; Manovich, 2002) and Internet infrastructure (Lessig, 2006), these studies collectively outline a critical role for the infrastructural configurations of SM. In contrast to the 'user-centric' perspective, communication happening at the interface level is here viewed only as the tip of the iceberg (Langlois, 2013b). The difference between this approach and the 'network-centric' approach is more blurred. The main distinction relies on the central role given to technology and its participation in shaping socio-cultural dynamics. Software is viewed as a mediator of culture and cultural practices, and as embedding both assumptions and modalities of representation.

As Langlois explains, software becomes an actor with a capacity to produce certain forms of cultural understanding and the ability to influence user cultural experience (Langlois, 2013a). Consistent with this view, David Beer alleges that web 2.0 is fundamentally a question of “various sorting and filtering algorithms determining what the user encounters online” (Beer, 2009, p. 998).

Under this approach, attention is placed on software and technological functionalities. The key concern circles around the question of how technological configurations influence and condition experiences and practices in the first place. Filters and personalization mechanisms embedded in SM, Pariser argues, shape our perceptions of “what is out there” (Pariser, 2011). Currently, he reports, 36% of Americans under 30 read news prevalently on SM (Pariser, 2011, p. 14). Pariser believes that this number testifies to the increasing control that Facebook and SM exercise on representations of the world. SM personalization executed by filters and algorithms organizes what it is relevant to know. Pariser traces the evolution of Facebook-specific functionalities and their criteria of relevance. As he reports, the first step toward personalization came with the introduction of the NewsFeed¹⁰ in May 2005. Since then, the success of the platform has increased significantly. NewsFeed empowered the personalized display of all one's friends' activities aggregated under a simple yet powerful (now SM) form: a list. However, when the platform reached a large number of users and the consequent over-production of information occurred, another technological layer was needed. Thus came about the presentation of the EdgeRank algorithm. The algorithm was introduced to systematize the display of friends' updates on the NewsFeed section, Facebook's homepage. As Tania Bucher eloquently demonstrates, the algorithm dynamically constitutes a form of social practice (Bucher, 2012). Bucher explains the concept of SM 'visibility' by unpacking EdgeRank functioning. On Facebook, every post displayed in the NewsFeed section is considered an 'object' (for instance pictures, check-ins, and status updates). In turn every interaction with an object constitutes an 'Edge'. EdgeRank orders the relevance of edges shaping what users see, and how they are seen.

“There are at least two interesting assumptions apparent in this. First, there exists a notion about what should be visible. Second, there is a notion that Facebook acts ideologically in that the platform is hiding something from people's view. But what is it that you should be able to see? Clearly, there is a discrepancy between what users think they should be seeing and what Facebook thinks users should be seeing” (Bucher, 2012, pp. 1168-1169).

She continues by saying that Facebook social algorithm exposes a certain circular logic where, in order to become visible, users need to participate, but participation is fostered by visibility. Thus, new 'participatory subjects' are produced by the logic embedded in the

¹⁰ NewsFeed is the list of personalized updates on one's own Facebook home page.

algorithm mechanics. It is the functioning of the algorithm that produces a 'normal user', one that participates, likes or comments; "by creating the impression that everybody participates, Facebook simultaneously suggests that participation is the norm" (Bucher, 2012, p. 1175). By measuring users' activity under its own criteria, the algorithm indicates what kind of user it needs in order to perform its function. That is, the algorithm's principles, by attributing 'relevancy' to user participation, indicate the type of participation Facebook requires.

Various contributions emphasize the increasing importance of algorithm power in shaping our daily activities (Gillespie, 2013; Mackenzie, 2007). Mackenzie argues that algorithms are a way of framing environments (2007). Kitchin and Dodge (2009) attribute to algorithms the power to influence how sociality is represented and organized. As Berry remarks, the situation of instability between technical systems and user behavior does not reside in the fact that users are 'exploited'. It rather fosters an increasing discrepancy between users' awareness of SM possibilities (and consequently what kind of behavior they adopt) and the effective functioning of platforms. As we saw, UGC, social participation and the rhetoric fueled by the term 'platform' very often fill a space where users are given the impression that they are 'in control'. Berry comments that this intrinsic contradiction can be observed as the disconnection between "interface and the actual intentions or functioning of these devices" (Berry, 2013, p. 41). This is an ambiguous margin, as I previously stated, which is often conveyed as a space of possibility.

To conclude this section, I would like to stress the increasing influence that SM functioning begets on the entire web. Mark Zuckerberg, as Pariser reports, has variously asserted that the main idea behind Facebook's development is to make the entire web social (Pariser, 2011). A recent study by Gerlitz and Helmond demonstrates the importance of the introduction of Facebook's social buttons in 2010. Through its social buttons, and in particular through the 'Like' button, Facebook is effectively increasing its data collection capabilities to large sections of the web. In what they called the 'like economy' Gerlitz and Helmond show that Facebook's social buttons create a cycle of data production and value multiplication that is set to substitute the 'hit and link' economy powered by Google (Rogers, 2002). They sustain that what is in the making is not just a 'social web', but a "recentralised, data-intensive infrastructure" of the web (Gerlitz & Helmond, 2013, p. 8). The contribution draws on political economy critiques, assuming user exploitation as the main engine of economic value creation. Contextually, though, the study remarks how the functioning of 'likes' suggests a determined form of social behavior to be adopted. Similarly to the case of the 'visibility' construction by EdgeRank, Gerlitz and Helmond postulate that 'likes' are the

engines of appreciation, an ambiguous technological construct that fosters social participation in a new SM-empowered form.

2.4 Conclusion

The division of the literature into user-centric and network-centric approaches, albeit artificial, has served a purpose. The critical comparison between the two approaches has brought to the fore the emergence of key themes and gaps in the SM literature. Let me now summarize the main points.

The user-centric paradigm focuses more on the question of social and individual behavior. It focuses its attention on the possibilities of expression that SM enables. By contrast, the critical paradigm is concerned with SM's hidden commercial purposes of data production and information transmission. Although the two approaches differ in a number of respects, they also run a similar risk. By treating SM technology merely as a communicative tool, the 'user-centric' literature runs the risk of concluding that 'there is nothing fundamentally new'. The focus on self and social performance in fact overemphasizes the negotiating power of users, despite the noticeable constraints that SM presents. The 'network-centric' literature, oriented toward a political economy critique, runs a similar conceptual risk. Assessing SM platforms as 'bad boys of capitalism' it risks overlooking one of the main innovations of SM. Users are not just data producers. Increasingly, users spend their lives on SM. Facebook - the principal SM platform - and a plethora of connected applications constitute the infrastructures of user's daily activities. Thus SM platforms are also cultural intermediaries. This aspect is often overlooked by the critical approaches to SM.

SM has a transformative effect on sociality (Langlois, 2011, 2013a, 2013b; Stiegler, 2009, 2013; van Dijck, 2013). As van Dijck states, the analytical focus must be pointed on explaining how SM has become central in the construction of sociality (van Dijck, 2013, p. 23). The literature reviewed has also partially exposed what is intended for 'sociality' on SM.

For example, self-presentation dynamics and their 'audience' are part of the sociality changed by SM. The 'self' online becomes something else, something that can be modulated as true, false, possible, hoped-for. Surely its connection with loosely perceived social norms and rules makes the concept of the 'self' hard to pin down. I believe that this occurs because social norms, rules and discourses are also changed by SM's technology and rhetoric. UGC, social participation, and sharing are now intermeshed with the infrastructures and power

struggles of web 2.0 functioning. A good user is a user who shares. Sharing changes the sociality of 'self' construction and enters into ego-network articulations (the management of one's online friends). Thus sharing responds to the data needs of SM platforms. Likewise sharing influences 'self' representation and transforms social needs and behaviors.

Few writers have been able to draw on SM infrastructural properties to explore how SM conditions new cultural practices of communication and sociality on a large scale. Only the literature reviewed in the last section places technology at the centre of its analysis. By explaining the logic behind SM functioning, some scholars have reconnected the technological mode of social representation with possible consequences of how sociality is expressed and the 'self' constructed. Bucher for example has deconstructed self-presentation strategies on Facebook - what she calls 'visibility' - starting from the EdgeRank functioning. For Bucher 'visibility' is "something that designates a general mode of awareness about someone or something" (Bucher, 2012, p. 1177). Hence she reconnects the algorithm functioning with a manifestation of sociality. Similarly, Gerlitz and Helmond have uncovered the remediation of affects operated by Facebook 'likes' (Gerlitz & Helmond, 2013).

'User-centric' and 'network' perspectives testify the need to go beyond an interface model of analysis. The contributions gathered under 'technologies of the social' indicate a possible route. The gap can be addressed by looking for the ways in which SM has already permeated manifestations of sociality, starting from its peculiar logic. The manifestation of sociality that is of interest for this research project is consumption. How does SM permeate consumption as manifestation of sociality? This central question will be gradually developed throughout the dissertation. The following chapter defines consumption as a manifestation of sociality and how it partakes in the construction of the 'self'.

3 Consumption

Introduction

This chapter reviews the literature on consumption. This research intends to theorize the impact that SM's technology might have on the socio-cultural conventions of consumption, among which it privileges the social 'role' of consumer as identity seeker. This chapter thus critically examines consumption as a complex 'manifested sociality' singling out social mechanics and symbolic exchanges that might be undergirded and possibly transformed by SM's technological infrastructure. The approach followed is functional to the main interest of this research. Starting from the general considerations exposed here, the following chapters (chapter 5 and 6) conceptualize the logic that SM's technology for shopping exhibits and how it might disrupt traditional conventions of consumption.

To be clear, consumption is framed here as a socio-cultural process involved in social and individual identity articulation. Viewing consumption as primarily cultural, means to recognize that it involves at least three major dimensions, specifically:

“(i) cognitive elements and beliefs: what society knows, transmits, and preserves about the physical and social worlds and the way in which society works, (ii) values and norms: how the majority are expected to behave and how the individual responds and reacts to the more generalized societal norms, and (iii) sign, signal and symbols: these include language and the variety of conventions or signification systems used for conveying meaning” (Johnson, 1962, quoted in Evans, Foxall, & Jamal, 2009, p. 285).

In general we can thus define consumption as the socio-cultural process through which individuals and groups negotiate norms, values, and beliefs that come to be 'attached' to objects, brands and symbols through consumption languages. All in all consumption is a modality of the social insofar as individuals and groups re-enact and negotiate elements of a broader cultural system - mediated by consumption activities, practices, and institutions - to construct a sense of self.

Starting from contributions concerned with the symbolic dimension of consumption, this chapter integrates different scholarly traditions around the core themes of 'individuality' and consumption values. The knowledge exchange between social values and individual consumers is of particular relevance for this research. I believe it is within this space that SM's technological mediation and personalization technology might intervene in possibly changing current notions of 'individuality' and as consequence 'socio-cultural values' at large. The first section of this chapter thus defines consumption as a knowledge space. The second section instead focuses on a specific domain of consumption - fashion. The system of fashion exposes the symbolic dimension of consumption at its best (or worst depending on

the point of view) and its concern on the articulation of personal appearances allows one to trace the social evolution of the concept of individuality. The section's main aim thus is to unravel the evolution of the fashion system as a mundane (and modern) way to allow individual identity articulation through the consumption of apparel. Following the establishment of fashion as a value-system the literature traces some of the socio-cultural mechanics by which fashion regulates individual identity construction. Section 3.2 explores the manner in which marketing manages meaning and thus contributes to constructing particular notions of consumers. The section traces some of the assumptions embedded in marketing practices. This exercise is useful in unravelling points of convergence between marketing ideology and SM's discourses on consumption. Reviewing the evolution of segmentation models and the shift toward relational marketing allows the investigation to expose gaps in the SM marketing literature and to advocate a different approach to SM and personalization technology. Starting from the critical review of consumption and consumption practices considered here, chapter 4 theorizes the active role of SM in the mediation of consumption and consumers alike.

3.1 Consumption as a 'modality of the social'

In recent years there has been an increased interest in the symbolic dimension of consumption that has been defined as the main engine of contemporary economies (Appadurai, 1988; Featherstone, 2007; Gottdiener, 1995; Miller, 1997; Slater, 1997). Under this paradigm, the cultural and symbolic 'experience' of consumption is the main factor orienting production dynamics and economic values of goods (du Gay & Pryke, 2002; Pine & Gilmore, 2011). The common underpinning of studies circling around consumption's symbolic dimension is that it makes little sense to understand commodities only through a functional logic of use value or an economic logic of exchange value. Rather, under this approach:

"value arises from forms of cultural capital (assets such as brand identity and associations); circulation is understood increasingly in terms of social or viral network connections (rather than anonymous market transactions between contracting individuals); and commodities are understood increasingly as non-material and hence infinitely malleable signs that are elaborated through cultural rather than commercial logics" (Slater, 2011, p. 32).

A cultural approach to consumption sustains the idea that both use and exchange value come to be regulated essentially by the symbolic value of goods. It is the socio-cultural dimension of consumption that endows goods with specific connotations of value. The concept of 'value' is key to the entire dissertation because it is what connects social and personal spheres of consumption, shaping consumption contexts and orienting market dynamics. Social values in consumption domains are understood as high-level needs. They are critical

determinants of social as well as individual behaviour (Baier & Rescher, 1969). When a specific need, desire, or belief becomes enduring (Rokeach, 1976), when it transcends specific situations (Schwartz & Bilsky, 1987), it can be regarded as a value (see Evans et al., 2009, pp. 28-31). For example, the value of individual free choice is one of the fundamental tenets of consumerism. In this sense it has been argued that an individual is constructed as a consumer by its essential capability of choosing (Gabriel & Lang, 2006). Conversely, being a consumer has conferred to individuality a new meaning: an individual is a person who exercises his or her consuming-choosing capability in its own right. As Giddens puts it: “we have no choice but to choose” (Giddens, 1991, p. 81). A large part of the rhetoric on consumerism flourishes around this fundamental collective value (see Schwarzkopf, 2011, for a critique of the concept). Correspondingly, consumption's socio-cultural system and marketplace develops and sustains the means by which such induced value can be satisfied as a personal need (Slater, 2005). It is in this sense that a particular notion of individuality comes to be constructed in consumption processes (Featherstone, 2007). Consumption thus becomes the knowledge space, animated by the interplay between socio-cultural values and consumers as desiring subjects.

Vinson, Scott and Lamont (1977) design a model of a consumption value system organized hierarchically on three levels. The first level is composed of ‘global values’: enduring beliefs about desired states of existence or modes of behaviour. The second level concerns ‘domain-specific values’: beliefs relevant to economic, social, or other activities. The third level is centred on product attributes: evaluative beliefs concerning products (Vinson, Scott, & Lamont, 1977). Although the model’s intent is to operationalize socially held values for marketing purposes, it remarks on how values, deriving from a powerful set of institutions, orient consumer perception of commodities through an object’s meaning. Values and norms are *learned* by consuming (Blackwell, Miniard, & Engel, 2001). Values, their symbols and meanings, and the systems of signs used to convey them, construct the symbolic space of consumption as knowledge space. The socio-cultural space where the value of objects is produced and exchanged does not just produce the desire for a particular object (and corresponding value); it also provides the means to satisfy it. In this sense, consumption institutions structure the access to the knowledge space of consumption as the cognitive path between desire and enjoyment. As Simmel indicates, an object becomes valuable when it resists to our desire to possess it (Simmel & Frisby, 2011). The resistance of objects becomes internalized and fuels personal motivation, the force that moves individuals to action. Personal motivation is defined as “produced by a state of tension, which exists as a result of an unfulfilled need that moves us away from psychological equilibrium” (Evans et al., 2009,

pp. 6-11). Unfulfilled desires (wants or needs¹¹) create the motivation to consume as the individual response to consumption values (Belk, Ger, & Askegaard, 2003). Simmel poignantly remarks that if value is conceptualized as a socio-cultural category then it follows that individual desire arises from the space, intended as knowledge distance, between individuals and society (Simmel & Frisby, 2011). Consistent with this position, Thompson contends that individuals inhabit a 'consumer' role because they react to socio-cultural norms, rules and expectations (Arnould & Thompson, 2005).

McCracken schematizes the process of production and transfer of value in a 'meaning-transfer model' (McCracken, 1986). Under this framework, meaning resides in a culturally constituted world that consumption institutions, such as advertising, media, and fashion systems, use as a reserve for their communication strategies. Meaning becomes exchangeable through the disengagement from the cultural world and the re-engagement into the system of objects and commodities. A set of symbolic actions or rituals, such as possession rituals, gift exchange, grooming and divestment rituals are the means by which meaning is transferred to individuals and within groups. In this way: "the known properties of the culturally constituted world thus come to reside in the unknown properties of the consumer good and the transfer of meaning from world to good is accomplished" (McCracken, 1986, p. 74). On the one hand, it is through consumption that individuals enter into the negotiation of socio-cultural values. On the other, consumption also becomes the terrain where society articulates its culture at large. It is in this sense that cultural and anthropological accounts of consumption conceptualize it as a religion (from *religo*, a Latin word that means re-unite) organized around its own system of beliefs, idols, and rituals (Belk, Wallendorf, & Sherry, 1989). Consumption language and its institutions articulate the desires around objects by 'setting them apart'. The notion of valuable objects is elaborated by values and symbols that make them distant and sacred (the original meaning of the word sacred is 'to set apart').

It is, I believe, by entering into this knowledge space that the impact of SM technology on consumption can be analyzed. As seen in chapter 2 concerning SM social interaction, value negotiation and knowledge exchange undergo a significant technological mediation that is often overlooked by the literature. Thus, tracing the conceptual boundaries of consumption's knowledge space becomes crucial in order to understand how technology might intervene in

¹¹ Although desires, needs, and wants are differently conceptualized in consumer behavior studies, accounting for their specific definition falls beyond the scope of this research (see Evans et al., 2009).

articulating the distance between different agencies of meaning. Consider for example how Appadurai defines the knowledge divorce between institutions in consumption domain:

“Culturally constructed stories and ideologies about commodity flows are commonplace in all societies. But such stories acquire especially intense new and striking qualities when the spatial, cognitive, or institutional distances between production, distribution and consumption are great. (...) The institutionalized divorce (in knowledge interests and role) between persons involved in various aspects of the flow of commodities generates specialized mythologies” (Appadurai, 1988, p. 48).

Specialized mythologies in turn might condition roles and social values at large. Consumption in fact is both a space of ‘exchanging values’ qua objects and a space of ‘exchange of values’. Appadurai defines this symbolic space as an *imagined* exchange able to confer value on objects and their exchange act (Appadurai, 1988). Commodity is a thoroughly socialized object and consumption is “eminently social relational and active rather than private atomic or passive” (Appadurai 1988, p. 34). Commodity, Simmel points out, is a phase in the life of a thing (everything can rise to a commodity state), a situation, he says, where its exchangeability (past, present or future) is a socially relevant feature (Simmel & Frisby, 2011). A commodity is thus defined as such under an eminently socio-cultural frame of reference, which is constantly redefined by the consumption process. Perhaps it is now clear how, under a perspective of this sort, any theory limiting consumption to relations between producer and consumer is essentially flawed. Producers, as well as the media and other institutions, do not create values in a vacuum but often elaborate and change what is already a socio-cultural imaginary or tradition, which, being commoditized by consumption, becomes exchangeable. Appadurai remarks that the changing notion of value always comprehends the historical trajectory of technological discoveries, new forms of political control of such discoveries, and changes in the social and cultural role of objects and of persons (Appadurai, 1988).

The space of consumption knowledge is articulated by a set of norms and rules that, mediated by market ideology and institutions, frame consumer possibilities, desires, and sense-making activities (Thompson & Hirschman, 1995; Üstüner & Thompson, 2012). “Consumer culture usually presumes that market-based values and identities have become central to social reproduction” (Slater, 2005, p. 175). Socio-cultural institutions (actual and symbolic, such as language) create the demand for goods and partake in the constitution of consumers. This space produces “the symbolic boundaries that structure personal and communal consumer identities” (Arnould & Thompson, 2005, p. 870). The symbolic boundaries of individual and collective identities are the specific languages that consumption uses to structure the relationship between consumers and values of goods. Commodities and their symbolic meanings are pivotal. They are the compasses that consumers use to make sense of their social environment, to orient their own experiences

and lives, and to forge a coherent – albeit fragmented – sense of self (Kozinets, 2001). As Douglas and Isherwood remark: “man needs goods for communicating with others and for making sense of what is going on around him” (Douglas & Isherwood, 1996, p. 95).

The knowledge space of consumption is lived by individuals as consumers and becomes the mean to self-perception. A longstanding tradition of consumption studies demonstrates that people consume in ways that are consistent with their sense of self (Sirgy, 1982). For example, self-concept theory analyses the way in which consumer subjectivity is implicated in consumption. It is defined as: “the totality of the individual’s thoughts and feelings having reference to himself as an object” (Rosenberg, 1979, p. 7). It means that consumers often use the ‘self’ as an object and as a reference category for segmenting, organizing, and understanding their surroundings (Evans et al., 2009). Psychoanalytical approaches tend to see changes in self-concept as the result of an inner conflict - the tension created between a desiring state and a desired state - thus projected onto objects and others. Drawing from similar positions, in a seminal article Belk argues that objects become self-extensions. We identify almost completely with what we own, acting out different strategies and rituals to enhance our sense of self through our belongings. In this sense, as Belk poignantly remarks, “we are what we own” (Belk, 2000, p. 76). The common understanding of self-concept frames the idea as formed within society and as driven by individual need for self-enhancement (Grubb & Grathwohl, 1967). As Schouten argues self-concept can develop with the use of different strategies such as “role identities, personal attributes, relationships, fantasies, possessions, and other symbols that individual use for the process of self-creation and self-understanding” (Schouten, 1991, p. 413).

Naturally self-concept is not a static concept but becomes constantly mediated by consumption activities. As Evans et al. explain, self-concept is a multidimensional concept that can include, for example, actual self, ideal self, social self, and ideal social self (Evans et al., 2009). The work of Markus and Kunda demonstrates that self-concept has an intrinsic instability due to the influence of contexts, to which consumers adjust continuously developing multiple selves or multiple identities (Markus & Kunda, 1986). Several attempts have been made to demonstrate a direct correlation between social contexts and different notions of self (Dolich, 1969; Graeff, 1997; Ross, 1971; Sirgy, 1982; Solomon, Zaichkowsky, Dahl, Polegato, & White, 2013). Drawing from the symbolic interactionist tradition, a strand of consumption research sees consumers actively negotiating self-concepts in social contexts (Crane, 1999b; Goffman, 1979; Stone, 1959; Stone & Farberman, 1970). Some authors have been interested in questions concerning the active involvement of individuals in personal identity pursuit, and for them consumers are identity

seekers and makers, bricoleurs or craftsmen working with the marketplace resources to assemble a collective or individual identity project (Ahuvia, 2005; Miller, 1997; Murray & Ozanne, 1991; Thompson & Hirschman, 1995). Ozanne and Murray for example, have separately argued that consumers might develop a conscious resistance to codes of consumption (Murray & Ozanne, 1991; Ozanne & Murray, 1995).

Similar to the ‘user centric’ approach reviewed in the previous chapter (see chapter 2, section 2.1), this strand of literature overemphasizes individuals’ active involvement, contending that it is in the specificities of contexts and situations that negotiation of self-concept takes place. Although the point is surely relevant, the evidence presented in this section suggests placing consumption symbolic exchange and consumer self-concept articulation in a broader context. Consumption is a socio-cultural battlefield for identity projects where a concept of the self can be learned and *consumed* (possessed, divested, gifted, etc.) through objects’ values and meanings. As Kopytoff sustains, consumption goods have a social life and a cultural history of their own (Kopytoff 1986). Together, the studies presented highlight that the battle is fought in a field delimited by the symbolic boundaries imposed by social and cultural traditions and conventions. Consumption is the ground where meaning is acquired, “culture is fought over and licked into shape” (Douglas & Isherwood, 1996, p. 57). It is within this space that meaning agencies (institutions, media, languages) create social values, roles, and discourses. Furthermore, it is within this space I argue, that SM technology intervenes with its own set of possibilities and constraints. Individuals inhabit the social role of ‘consumer’ that comes to be regulated by culture, market dynamics, and – as we will see in subsequent chapters - by technological developments.

As Bourdieu has demonstrated, the production of value and its related discourses always implies a form of political control operating on asymmetries of knowledge. Thus media and the ‘taste’ establishment, regulating cultural capital, condition consumption exchange and limit social mobility. They produce the rules of a socio-cultural struggle where consumption becomes the battlefield of symbolic power relations. In his view, choices are already structured and every act of choosing is read as an act of social identification; as he famously puts it, “taste classifies the classifiers” (Bourdieu, 1984, p. 6)

Over the past decade, most research in consumption has emphasized the importance of the marketplace as the prominent source of mythic and symbolic resources through which people construct narratives of identity (Arnould & Thompson, 2005; Ekström & Brembeck, 2004; Holt, 1997). Bauman postulates the pervasiveness of a ‘consumer society’ where the way in which we experience the satisfaction of our needs (desires, imaginaries, etc.) defines

ourselves. The collapse of social superstructures (political institutions, family, and other community organizations) confers extraordinary importance to the consuming act as means of identity construction (Bauman, 2000, 2005, 2007b). As Livingstone argues “the commodity form penetrates and reshapes dimension of social life hitherto exempt from its logic to the point where subjectivity itself becomes a commodity to be brought and sold in the market as beauty, cleanliness, sincerity and autonomy” (Livingstone, 1998, p. 416). Similarly, Colin Campbell sustains that activity of consuming: “has become a kind of template or model for the way in which citizen of contemporary western societies have come to view all their activities” (Campbell, 2004, p. 41). Societies are now considered for their ability to consume, where consumption becomes the main means for identity formation. As Bauman poignantly remarks:

“The search for individual pleasures articulated by the currently offered commodities, a search guided and constantly redirected and refocused by the successive advertising campaigns, provides the sole acceptable - indeed badly needed and welcome - substitute for both the uplifting solidarity of work-mates and the glowing warmth of caring-for-and-being-cared-by” (Bauman, 2007a, p. 29).

It is against such a broader picture that this project intends to question the role of SM technology and its personalization of information. Consumption has become pervasive in contemporary ways of seeing oneself within society. As Lipovetsky considers, the *homo consumericus* is now perfectly *individuated* through the act of consumption. He sees it as the epitome of the final stage of modernity that he calls hypermodernity. Lipovetsky sees consumption as the means through which expression of human individuality is elevated to a position of dignity. Referring to the exercise of continuous self-change promoted by the fashion system, he sustains that it preserves self-individuation as freedom rather than coercion (Lipovetsky, Porter et al. 2002). Next, I review the evolution of ‘individuality’ and ‘individuation’ sustained by fashion language.

3.1.1 A brief history of individuality in fashion consumption

In order to understand what kind of change SM might bring to conventional categories of ‘individuality’ in consumption domains, this section reviews socio-semiotic approaches to the fashion system. In the creation of a symbolic space of individual and collective individuation, the fashion system has a prominent place.

Appadurai suggests to see: “luxury goods as goods whose principal use is rhetorical and social, goods that are simply incarnated signs” (Appadurai, 1988, p. 38). Mary Douglas has considered luxury and fashion objects as agencies or quasi-agencies remarking their polysemy (Douglas and Isherwood 1996). This means that fashion or luxury goods are imbued with a multiplicity of meanings. Similar to a language register, fashion and luxury are special registers of consumption. Appadurai classifies some of the attributes of these

special goods, among which he lists, for example, their complexity of acquisition, their semiotic virtuosity, a prerequisite knowledge for their consumption, and a tight link with notion of body, person, and personality (Appadurai, 1988). All the concepts highlighted are naturally connected: fashion objects' complex meaning can be decoded only acquiring knowledge (by learning), often with the help of intermediaries (taste experts or codes) that establish the 'appropriate' way of being fashion consumer (see also Blumer, 1969). In turn, notions of appropriateness are tightly coupled with values concerning body, person, and personality. As this section illustrates, the evolution of values of 'appropriateness' - how the majority is implicitly expected to behave - is one of the links between the fashion system and individual identity construction.

Since its social establishment, fashion has been framed as ambivalence, deception, and ambiguity (Polhemus, 1996; Polhemus & Procter, 1978; Wilson, 1987). These negative connotations point to the intrinsic proprieties of fashion as 'discourse' about one-self (Davis, 1994; Flugel, 1930). It is through its appearance that the wearer constructs, experiences, and understands its relations within society (Barnard, 2007). Fashion's economic development and social acceptance has fueled the construction and diffusion of a modern concept of individuality. Fashion evolves with society, and as Simmel explains, it is in more complex societies, where are present defined social identities, that individuals counteract the social force of submitting to the demands of that society with fashion (Simmel, 2003). He sees fashion as an expedient, the instrument through which - by mean of difference in clothing - individuals escape the danger of absorption manifested among highly civilized nations (Levine & Simmel, 2011, p. 301). The symbolic dimension of fashion consumption has contributed to the validation of individual *free choice* within society, institutionalizing an overall standard of individuals as free-subjects and, at the same time, controlling the extent by which choice might be exercised (Barthes, Stafford, & Carter, 2006; Lurie, 2000). "Fashion's distinguishing feature was its imposition of an overall standard that nevertheless left room for the manifestation of personal taste" (Lipovetsky, Porter, & Sennett, 2002, p. 32). Likewise Braudel links fashion with social stability, calling fashion 'organized change'. It is this individual *controlled freedom* which contributes to maintaining a determined social organization (Braudel & Reynolds, 1992, pp. 312-313). By regulating expectations and appropriateness, fashion makes social inequalities appear as if they were natural.

During modernity¹² the fashion system acquires its prominent place within society. Modernity is the time in which styles and tastes become individualized and they become *personal*. The newborn concept of ‘individuality’ begins to be coupled with a ‘lifestyle’. Both concepts are disentangled from moral and ethical norms and from traditional institutions, acquiring a substance of their own (Benjamin and Arendt 1968; Benjamin 2008). The lecture that Georg Simmel made on the origin of fashion at the onset of the individualized era remains perhaps unmatched. He inscribes the fashion system with its symbolic dynamics as function of a more general socio-cultural dialectic. Fashion creates a space where it is possible to enact the paradox of being an individual within society. This paradox, which is perhaps fashion’s core meaning, is expressed through a conflicting desire for imitation and differentiation (Simmel 1957; Simmel 2003). Simmel's analysis traces some of the fundamental characteristics of fashion: its ephemeral character temporally bounded to the emergence of the new, and the tension between personal style and society as a standard to conform to (Simmel 1957, p. 547). To him, fashion is the emotional survival of individual within society (*Ivi*).

During modernity, communication and diffusion of fashion are animated by the socio-cultural tensions procured by the passage from a natural to an artificial order. Different contributions have remarked on the convergence between the evolution of fashion communication strategies and the changes of individuality and identity (Barnard, 2002, 2007; Kawamura, 2005; Wilson, 1987). At its beginning, fashion is communicated and perceived more as an instrument operating on the physical body. In the modern symbolic and social displacement of the self, fashion thus acquires a synthetic place: is an *artificium*, a tool for reshaping parts of the body and the self. Fashion's etymology derives from the Latin word *facere* (doing), it shares the same roots with the words fiction and fetishism (Esposito, 2004b). They all imply an unnatural, more than real (a symbolic) dimension, an artificiality constructed and modulated ad hoc (Svendsen & Irons, 2006). During modernity, fashion meanings are communicated through physical objects: garments, accessories and their features. Consumers see fashion as the tool able to highlight or conceive part of the body, and to represent corresponding notions of personal and collective identity. At that time:

¹² Fashion as it is organized today begun at the end of 1800 in Paris when major socio-economic changes triggered the social acceptance of fashion designer as author, and the contextual revolution in communication and promotion of *haute couture*. The activities of Worth and Poirer clearly marked the socio-cultural passage from tailors to designers, creating a hierarchy of products and values which were subsequently diffused and institutionalized. Worth opened his salon in 1858 and started to promote his creations, showing living mannequins to clients (known as *sosies* - ‘doubles’). He invented the modern ‘fashion catwalks’ presenting his collection semi-annually to groups of buyers (see Martin & Koda, 1995). Contextually, Paul Poirer started to organize touring shows in mundane locations, and by giving parties after the collection he found a way to exploit the free press generated by Parisian high society chronicles. Poirer was the first to connect fashion to the glamour of high society, consolidating a communication strategy, which is still one of the main channels of fashion diffusion.

“the style was still identifiable with a precise shape of the garment in itself. To this corresponds the fact that a precise individual and social identity was in place and this allowed to a precise style – still limited by the object of fashion: garment – to impose its ‘fashion’ on different levels” (Crane, 1999a, p. 17).

Communication practices and the notion of style – as Diana Crane remarks – are embedded in the object of fashion - the garment. Not only are designers for the first time in history elevated as ‘authors’, but the possibility of assembling different parts of the self (under precise socio-cultural rules), and of being the author of one’s own self-appearance is granted to anybody independently from their origins.

I believe that the reading of Simmel should be placed in this broader socio-cultural scenario. He sees fashion as the tension between imitation and differentiation, but he does not confine it to the upper and lower strata of society conflicts (where later lectures of Simmel constrained it). Simmel’s conceptualization of the fashion paradox rather includes the cultural tensions between an established identity and the growth of an ‘objectified-inorganic body’ promoted by the ‘unnatural’ use of fashion as a tool. More generally, with his seminal contribution he individuated the clash between individuals and society in their respective dynamic formation. Identities as cultural values are disengaged from traditional notions and redistributed by fashion objects and their values. The diffusion of particular identities and their becoming collective is instead promoted by the mechanisms of imitation, which is an imitation of others and of the new (Calefato, 2004, 2007; Gronow, 1993; Ilmonen et al., 2011). Imitation becomes one of the means to acquire social mobility and the very value of modernity: it suppresses castes, classes, and national barriers (Kawamura 2005, p. 25). The imitative phenomenon triggered by fashion becomes constitutive of social groups, making fashion dynamics crucial in understanding how individuals construct themselves and their own belonging to collectivities (Kawamura 2005, p. 21). The paradox is well known: the imitative principle of fashion, with a strict use of time, regulates social and personal change as the expectation for something new every season (Esposito, 2004b; Svendsen & Irons, 2006). On the one hand, fashion communicates the possibility of change by adopting a new style (differentiation from others and from the past). On the other, being new is a matter of imitating others (lifestyle models or significant others) (Crane & Bovone, 2006).

The establishment of a mass-media society, its institutions, and their power in the production and promotion of lifestyles, marks yet another stage in the fashion system’s evolution. The symbolic meanings and values that fashion always had, gradually take the place of more ‘material’ characteristics. With the advent of a mass-media society, the garment’s features ceases to be the determinant of identities and ways of being. Instead, the media relishes the

world of fashion symbols and contributes to establishing fashion as a system of signs. Magazines and media come to regulate and fix lifestyles, fashion cycles, and public taste. Through the work of media and communication, fashion becomes an autonomous system of signification (Barthes, 1983). The system of written fashion, as Barthes calls it, establishes a closed hierarchy of media institutions among which fashion magazines are still today the most powerful actors (Barthes, 1967, 1983; Barthes & Heath, 1977; Eco, 1986). A code of fashion gradually becomes fixed on paper through icons, images, and written texts. It is through media exposure that fashion artificiality falls into the background, becoming a natural language (Esposito, 2004b) internalized by cultural norms and expressions (Barthes, 1983; Barthes et al., 2006). The power of written codes confers an autonomous and independent life to a previously auxiliary communication system. Put simply, what was perceived as ‘unnatural’ or artificial becomes the new ‘natural’ way of being individual within society. Fashion becomes pervasive of society and consumption at any level. Images and stories become the bearer of fashion value (both in economic and symbolic terms). Signs take the place of objects and the fashion system becomes primarily a communicative system, a system based on an institutionalized language fixed around standards, ranking systems, and determined by experts (Crane, 1999b; Malossi, 1998; Morean, 2006). As Roland Barthes would say when real or imaginary objects are converted into language, what happens is that language immobilizes perception at a certain level of intelligibility and delivers information as knowledge (Barthes, 1983; Barthes et al., 2006). The luxury of words and images that fashion produces become the *veil*, a simulacrum of the real, interposed between real objects and audience. As subsequent important works have demonstrated (Baudrillard, 1998, 2005), Barthes’ contribution was the first to unpack the contemporary prominence of myth and desire in establishing fashion values and orienting their consumption. The law of symbols creates the desire that catches consumers in a never-ending game where the desire of desire is always stronger than its realization (Belk et al., 2003). As with every language, fashion flourishes on its own intrinsic ambiguity. For a system such as fashion this means that its rules are cyclically disrupted – and thus renewed – by incorporating their own exceptions. This bottom-up, or trickle-up movement, has been variously theorized and refers to the inclusion of ‘street styles’ into mainstream fashion (English, 2007; Jaeger, 2009; Malossi, 1998; Welters & Lillethun, 2011). In other words, individual idiosyncrasies are absorbed into fashion's institutional language.

Detaching fashion from physical goods and their functionalities, communication and mass media transposed it as lifestyle, as myth, and as an empire of signs (Lipovetsky et al., 2002). As Baudrillard argues, it is not the object but the name that creates desire (Baudrillard, 1993, 1998, 2005). Meaning, he continues, resides not any more in differential relations between

two individuals but in differential relations between signs (Baudrillard, 1994). In short, in his view, consumers become passive spectators of a symbolic superstructure that articulates objects as simulacra from which any possibility of signification is excluded. The symbolic layers of consumption discourse have come to cover the real almost completely. In this sense consumers seem to be left out from the meaningful battle and dwell only in an empty game of simulation. The dance of simulacra nullifies the possibility of a meaningful exchange between the sign-object and interpretive quests of the consumer (Baudrillard, 1993, 1998, 2005). Will the flooding of personal information disrupt the dictatorship of symbols? Or will it yet interpose just another layer of signs between quests for consumer identity and social values?

3.2 Managing meanings, measuring emotions

Lifestyles, brands and their imaginaries – the referents of fashion meanings and identities – need to be constantly managed. They act as ‘anchorage’ for fashion signification and the continuous modulation of desire and of being. Symbolic meanings of consumption are operationalized by marketing and communication strategies. This section looks at marketing and brand management as communicative strategies encouraging rather than creating need or desire (Evans et al., 2009). As Galbraith puts it: “one cannot define production as satisfying wants if that production creates the wants” (Galbraith 1969, pp. 146-7, quoted in Slater, 2011). Following the concept exposed in the previous sections, I do not follow the general understanding of marketing strategies as producing ‘desires’ and thus ‘individuals’. I rather consider marketing and communication practices as intervening in defining modalities of relations between individuals as consumers and objects and symbols (encoding social values). As Zwick and Cayla argue, marketing makes things visible; it brings them forward, by rendering products and meaning recognizable. Drawing from their idea, this section aims at critically reviewing how determined marketing operations have made consumers visible to marketers and to consumers as well (Zwick & Cayla, 2011). As Don Slater argues, marketing occupies a place that is both cultural and economic (Slater, 2011). By using heterogeneous semiotic and business practices, it conveys symbolic meanings about ‘who we are’ and the way we can relate to others and to ourselves within society (Evans et al., 2009; Hines & Bruce, 2007; Zwick & Cayla, 2011).

“Instead of merely institutionally disciplining a mix of distribution practices, ‘marketing’ has come to represent a transformation in the logic of commerce itself: market behavior comes increasingly to be conceptualized in terms of psychological, semiotic, and cultural expertise that can comprehend and intervene in market processes far below the level of economic rationality, and that are capable of grasping processes that are entirely unavailable to purely economic calculation” (Slater, 2011, p. 32).

In this sense I review some relevant marketing practices as a way of reinforcing or transforming the logic of consumption. I frame them as the manner by which social values

are disengaged from the cultural dimension and operationalized in the marketplace. In particular I am interested in remarking on how marketing has evolved around the core theme of individuality, orienting brand management and communication practices toward the personalization of consumption experience and the personal self-involvement of consumers in the relationship with brands. The choice is instrumental in reconnecting current consumption's symbolic exchange with SM's possibilities of mediation.

3.2.1 Marketing: from classification to self-governing

Marketing operations rely on a set of established communicative and cognitive skills to make sense of what consumers want (Zwick & Cayla, 2011). Le Pechoux et al. define marketing as “a two-phase process, which consists of identifying market needs and satisfying them” (Le Pechoux, Little, & Istook, 2007). It is essential to remark that in between these two-phases, marketing operates by translating what is observed in the market under its own set of values, ideologies, devices and practices (Slater, 2002b). Slater points out that marketing cannot define a market or a competitor “except through extensive forms of cultural knowledge” (Slater, 2002a, p. 59). In order to effectively place their products in the marketplace, organizations are required to understand customer identity, wants, and needs. Framing consumers under a predetermined cultural knowledge in order to target them has been the aim of segmentation strategies.

Segmentation is probably the principal activity that marketing uses to identify determined groups of consumers. Drawing from Horkheimer and Adorno's early critique on consumption as commodification of culture and sociality, numerous sociologists have framed segmentation as technology of domination, reiterating how it is about “classifying, organizing, and labelling consumers” (Adorno & Horkheimer, 1997, p. 123). As previously highlighted, marketing relies on “historically contingent” and partially “culturally constructed markets” (Zwick & Cayla, 2011, p. 5) whereas general socio-cultural changes are incorporated not only in modalities of exchange but also in the knowledge and practices used to make sense of those exchanges. In this sense, segmentation devices have evolved with consumption and general social changes toward softer “techniques of domination”. Already in 1971 Mishan argued that marketing added dissatisfaction rather than satisfaction. He also maintained that the plethora of versions of products and services, with relatively little differentiation (apart from the emotional) contributed to consumer anxiety and dissatisfaction (Mishan, 1971, quoted in Evans et al., 2009, p. 7). Nowadays it is commonly acknowledged that the fragmentation of consumer demand has been partially co-created by market dynamics and fuelled by the adoption of increasingly sophisticated models of demand measurement and consumer segmentation. As Payne et al remark: “the inevitable

challenge for practitioners may then be to accept that using more and more data inevitably leads to more and more segment possibilities” (Payne, Storbacka, Frow, & Knox, 2009).

“Segmenting consumers according to socio-demographics used to be regarded as highly sophisticated (...) it can still shed light onto customer preferences and propensities (...) this is no longer enough” (Evans et al., 2009, p. 154).

Hines and Quinn point out how the increasing complexity of marketing models has been a double-edged sword. On one hand it led toward diffused concerns toward model reliability and – even more importantly – toward a multiplication of perspectives. On the other, it led toward a complexity of perspectives that, particularly for fashion markets, have brought marketers to rely on the adoption of affective and emotional attributes and variables (Hines & Quinn, 2007). For example Hines and Bruce remarked how the very notion of segmentation clashes against the relevance that socio-cultural contexts have for fashion consumption. It is through fashion consumption that groups of consumers constantly adjust their attitudes and behaviour, thus reshaping targets and segments (Hines & Bruce, 2007). As they point out, segmentation has an intrinsic paradox, it is based on the ontological views that some kind of measurable and objective criteria might hold against the power of social and market interactions. At the same time it constantly looks for better ways to define social groups, making the differences between groups visible, and thus groups’ boundaries shifting, and markets unstable (Hines & Bruce, 2007; Maffesoli, 1996).

Although “in many organizations segmentation is a default activity” (Hines & Bruce, 2007, p. 80), behind the label of segmentation today are gathered different knowledge paradigms and practices concerning consumer identity. As Holt explains, a huge shift in marketing practice occurred when Ernst Dichter, Pierre Martineau, and others convinced organizations that using sophisticated psychological models it was possible to persuade consumers (Holt, 2002). In the case of fashion the uncertainty of market responses led towards the development of lifestyle-oriented behavioural models¹³ aimed at measuring customer values and lifestyles (Burns & Bryant, 2002; Dijk, 2009; Jackson & Shaw, 2009). Psychographic models delve into customer motivation and behaviour in greater depth than the ‘profiling’ approach of traditional demographic models (Evans et al., 2009, p. 190). A way to understand psychographic segmentation is to reverse the trajectory of social values conceptualized by the Vinson, Scott, and Lamont hierarchical model (see section 3.1, p. 35). Psychographic segmentation is the tool used by marketers to frame and measure consumer personal response to social values and meaning.

¹³ For example Rogers (1983) classified consumers into five different categories, based on how soon they adopted fashion: innovators, early adopters, early majority, late majority and laggards (Rogers, 1983, quoted in Martin & Koda, 1995).

In order to be measured, the personal response of consumers needs to fit determined models. For example, consumer perception of fashion brands is disaggregated in: (i) Knowledge, intended as information-seeking behaviour, comparative evaluation and other evaluative strategies, and (ii) Emotions, intended as prestige-seeking behaviour, social recognition, hedonic consumption processes, self-fulfilment and other identity construction related behaviours (Morley & McMahon, 2011, p. 4; Okonkwo, 2007). Vigneron and Johnson elaborate an assessment model of brand awareness based on consumer 'non-personal' and 'personal-oriented perceptions'. Non-personal-oriented perception is measured by referring to perceived conspicuousness, uniqueness, and quality. Meanwhile, personal-oriented perception is measured by ranking prestige-seeking consumption, extended-self behaviours, and hedonic behaviours (Vigneron & Johnson, 1999). The measurement of consumer representations, preferences, and behaviour becomes the instrument able to assess the impact of the constellation of the brand (the symbolic universe of the brand) (Hartman and Spiro 2005).

As the examples demonstrate, by relying on determined cultural backgrounds and measurement tools, marketers disaggregate consumer subjectivity into knowledge, emotions and perceptions. In turn, such a practice fosters the definition of both subjects and social groups. As Brunso et al. explain, product perception becomes the base upon which lifestyles are elaborated, thus it is used to connect consumer subjects to social values (Brunso, Scholdere, & Grunert, 2004). Likewise, Orth et al. illustrate how interests, activities and opinions are used to explain behaviour, which in turn informs marketing strategies (Orth, McDaniel, Shellhammer, & Lopetcharat, 2004). The segmenting, framing, and qualifying which operate on products and symbolic brand dimensions, intervene in individuating consumers as subjects. As Zwick and Cayla sustain, the socio-cultural system of marketing is concerned with the stabilization and qualification of consumer subjects (Zwick & Cayla, 2011).

In learning about themselves, consumers rely on brands as the reference to determined meaning and values. Consumer identity becomes entwined with brand identity (Kapferer & Bastien, 2009, p. 314). Brands suggest the right product-meaning association to consumers. They imply - and constitute at the same time - a knowledge proximity to the consumer. It is because of this knowledge proximity between brands and consumers that consumer knowledge (awareness and image of the brand) becomes the main object of brand awareness measurements. The knowledge proximity between consumer emotions and brand perception has also been used to coagulate groups of consumers around particular brand values. Brands

become the referent of group belonging and recognition by aggregating communities of likeminded consumers (Atwal & Williams, 2009; Vigneron & Johnson, 2004). By leveraging on the imitation-differentiation model, brands gather communities of likeminded individuals that construct their own original selves by imitating each other (Schouten & McAlexander, 1995). As Holt explains, “[a] brand that forges a credible ongoing relationship within such a community creates an impression for the mass audience that the brand is a vested member of the community and that its stature within that community is deserved” (Holt, 2002, p. 84). Increasingly brands seek to integrate this ‘mode of sociality’ in their own strategies. By using both aspirational or associative ‘reference groups’ (Park & Lessig, 1977) brands leverage on community building by using the influence of tastemakers, celebrities, and social events. This ‘social’ strategy takes advantage of social mechanics of trust to communicate or reinforce brand value and meaning and accelerate diffusion models.

As a consequence of the developed congruence between brand (or product) perception and consumer self-perception, consumer personality, self-perception, and identity become the central concern of marketing. Marketing approaches based on relation and identity (Hines & Quinn, 2007, p. 80) need to evaluate an even more complex set of information on consumers. On the one hand, the shift has brought about the growing conviction that quantity of information is key to overcoming the fragmented contemporary picture of consumption. On the other, it has conditioned a more general transformation in the knowledge paradigm and practice of marketing. In this relational exchange of complex values and meanings, where the expression of consumer personal emotions becomes fundamental, marketing moved toward what Payne calls ‘the service-dominant logic’ (Payne et al., 2009). Competing in complex, fragmented and dynamic markets has led producers to find ways of measuring and managing consumer emotions, attachments, and sentiments. Aspects that might be arguably defined as ‘immeasurable’ have grown in importance to inform marketers' strategic decisions.

“The experiential marketing approach in contrast to the rational features-and-benefits view of consumers takes a more postmodern orientation, and views them as emotional beings concerned with achieving pleasurable experiences. The characteristics of the postmodern consumer demand an experienced-based marketing that emphasizes interactivity, connectivity and creativity” (Atwal & Williams, 2009, p. 341)

From framing and defining consumers, marketing moved towards the production of a culture of the self, where consumer subjects were directly implicated in the relationship with brands (Fournier, 1998). Relationship marketing defines consumption as a relationship of identification (Zwick & Cayla, 2011). As Finn (2010) remarks, with relationship marketing, subjects are called into an act of consumption as continuous self-governing. Marketing defines a cultural space where consumer subjects are called to define and govern their

selves; “consumers are not only consumers, consumers act within situations, consumers seek meaning, consumption involves more than mere purchasing” (Caru & Cova, 2013, p. 7)

The experience of consumption becomes central to individual experience of their self, Arnold (2002, quoted in Caru & Cova, 2013, p. 7) describes it as occurring in different stages:

“(i) a pre-consumption experience, which involves searching for, planning, day-dreaming about, and foreseeing the experience, (ii) the purchasing experience, which involves choosing the item, payment, packaging and the encounter with the service and the environment, (iii) the core consumption experience, which involves sensation, satisfaction, dissatisfaction, irritation and transformation, (iv) the remembered consumption experience and the nostalgia experience, in which photographs are used to relive a past experience based on the narrative and arguments with friends about the past, is something that tends toward the classifications of memories”.

Tynan et al. define the experience of consumption as the delivery of sensory, emotional, cognitive, behavioural, relational, social and informational-based values to customers, which must be personally relevant for the customer, be novel, offer an element of surprise, engender learning and engage customers (Tynan, McKechnie, & Chhuon, 2010). Consumer subjectivities become implicated in the holistic experience of consumption as the last workers in the value-chain of brand production of meaning (Hines & Quinn, 2007, p. 83), with the quite relevant implication that: “the co-created experience of consumers through the holistic brand value structure becomes the very basis of marketing” (Bruce & Kratz, 2007). In the same way, brand management abandons a prescriptive manner in favour of a more inclusive model. Chevalier and Mazzalovo believe that this new model contrasts with product massification and exchange standardization (Chevalier & Mazzalovo, 2008). As Holt suggests:

“Branding could no longer prescribe tastes in a way that was perceived as domineering. People had to be able to experience consumption as a volitional site of personal development, achievement, and self-creation. The postmodern branding paradigm is premised upon the idea that brands will be more valuable if they are offered not as cultural blueprints but as cultural resources, as useful ingredients to produce the self as one chooses” (Holt, 2002, p. 83)

Arvidsson and Malossi make the powerful argument that viewing consumers as value co-creators means to mask the exploitation of free intellectual labor for the production of symbolic value. In their view, brands exploit consumers to acquire the value that they sell to consumers (Arvidsson & Malossi, 2011).

The current state of knowledge is dominated by the heterogeneity of approaches. Hines and Bruce notice how the increasing market fragmentation is likely to end up in a one-to-one marketing strategy that may be more expensive than the benefits it brings to the brand (Hines & Bruce, 2007).

3.2.2 Social Media marketing

Mirroring general approaches to SM, SM marketing literature is still viewed as the tool empowering both consumers and marketers with a set of unexplored possibilities and untapped potentialities.

From the academic side of marketing production, SM is seen as the production site of data on consumer preferences. The growing interest toward consumer perception, affections, and emotions requires a growing quantity of information on individuals and group characteristics, a need that SM seems to fulfil (Raymond, 2007, p. 14).

“The promise of these platforms is tremendous. The new world of digital and social media marketing can give companies increased access to their customers, fresh insights into their preferences, a broader creative palette to work with, and additional data and metrics to study”¹⁴.

Following the relationship approaches previously delineated, brands see the role of SM as decisive in triggering mechanics of trust: “social media can create awareness, change *attitudes* and help to convert prospect customers and customers into lifetime customers” (Smith & Zook, 2011, p. 467). Consumer participation is read by brands as “a novel tool of marketing and entertainment in the new media age” (Arora and Vermeyley 2011, p. 3), as an opportunity to increase communication campaigns at zero cost, allowing a controlled participation on content sharing (Kietzmann, Hermkens et al. 2011, p. 243). In reality, SM marketing in this moment is mostly limited to data mining techniques such as social network analysis and sentiment analysis that are often performed by specialized third party companies. The quantity of data produced by SM and the large sets of training data (such as product reviews, where text is linked to quantitative estimates of value) have made possible the affective measurement of consumer response with the use of sentiment analysis. As Arvidsson remarks: “in practice sentiment analysis is used to generate quantifications of the intensity of affective investments in an object” (Arvidsson, 2012, p. 52).

The impressive diffusion of different typologies of social media and their adoption, compose a complex landscape where it is hard to distinguish noise from rumor and brands need to develop new tools and insights (Shih, 2009). Old behavioral models framing buying habits are questioned, and the consumer decision journey is now viewed as a circular, non-linear path which involves different touch points with brands, and sees consumer decision-making

¹⁴ Gelles D., ‘Advertisers rush to master fresh set of skills’, *Digital & Social Media Marketing*, Financial Times Special Report, March 7, 2012, (Last accessed on 7/03/2012).

processes changed¹⁵. Online, this becomes a never-closed circle where consumers continually engage with others, their selves, and brands.

“The increasing complexity of the consumer decision journey will force virtually all companies to adopt new ways of measuring consumer attitudes, brand performance, and the effectiveness of marketing expenditures across the whole process” (Court et al., 2009).

Following the ‘user centric’ approach previously delineated (chapter 2, section 2.1), a number of contributions advocate SM benefits as the new democratizing platform for consumer co-creation of value. Under this view, SM sites “easy to use, they entertain consumers, facilitating information findability and interaction among groups and with brands” (Kozinets, Belz, & Pierre, 2011, p. 207). In general, SM is still mostly considered as neutral platform facilitating user self-performance and social interaction. The ‘performance of taste’ that SM allows effectively articulates personal and social individualization and identification behaviors (Arora, 2011; Heinrichs, Lim, & Lim, 2011; Hsu & Lin, 2008; Lin & Lu, 2011; Skågeby, 2009). However, as a number of researches demonstrate, significant benefits emerge for those digital marketing campaigns that provide virtual communities on their commercial sites (Chu & Kim, 2011; Hung, Li, & Tse, 2011). A point that would rather strengthen Arvidsson and Malossi's critique is that more often than not the value co-creation of consumers is integrated in marketing strategies and instrumented by marketing operations (Arvidsson & Malossi, 2011).

Still, technology is the great absent in the SM marketing and consumption literature. The literature does not consider the possibility that SM technology might impose yet another logic on consumption mediation and might thus intervene in changing the very conventions and roles upon which consumption relies.

3.3 Conclusion

This chapter has sought to define consumption as socio-cultural process. The main point which emerged from the first section is that meaning agencies do not produce values and meanings in a vacuum. They rather participate in the cultural battlefield of consumption by disengaging meaning from socio-cultural domains and ‘re-engaging’ them into objects. The point is relevant in order to place the role of meaning agencies (producers and consumers alike) within a broader socio-cultural context. The production of values is bounded to established social rules and cultural conventions and articulated on the basis of

¹⁵ The consumer decision journey is thus articulated in: “initial consideration; active evaluation, or the process of researching potential purchases; closure, when consumers buy brands; and post-purchase, when consumers experience them” (Court, Elzinga, Mulder, & Vetvik, 2009).

predetermined languages and codes. Because of this, individuals and groups participate in the consumption exchange by inhabiting social and institutional roles.

The review of the self-concept literature suggests that it is very difficult to trace the boundaries of a concept such as ‘the self’ without framing it under the social role it is called upon to perform and under the limitations of the medium it inhabits. Among the actual and imaginary institutions that construct consumption as a symbolic space, we saw that signification systems such as fashion have a relevant place. Fashion constructed and validated a notion of individuality through an implicitly (and explicitly) conveyed appropriateness related to the body, image, and personality of individuals. The evolution of fashion from a system of objects to a system of signs reveals the general socio-cultural shift of consumption logic. The consumption logic migrated into the symbolic dimension of self-articulation and modulation. The extensive use of information technology to shop and present oneself seems to perfectly fit the logic of the fashion system. It remains to be questioned though whether the logic that technological sociality and sociability implies will disrupt or reinforce the already established dynamics that fashion consolidated between individuals and social norms.

The last section of the chapter has sought to provide examples of how these dynamics are managed by marketers. By focusing on the role of determined marketing strategies, the sections highlighted how marketers have instrumentalised the creation of a culture of personal involvement in consumption processes and consolidated a softer approach to the regulation of consumer self. Segmentation changed from a technology of the self to a socio-cultural operation where notions of self-governing were implicated. In general, marketing practices evolved following the leap toward determined notions of individuality as freedom of choice.

The brief account offered on marketing institutionalized practices serves to reinforce the approach proposed by this study. If we want to understand the novelty of SM mediation of consumption we should go beyond the role it covers for marketers and brands alike. Surely SM responds to the need to have information on users-consumers and equally it offers new “relations of proximity” with brands. Undoubtedly the way in which SM is studied is conditioned by marketing needs. When users are seen as data providers it is also because the provision of data on users is one of the central tenets of the current marketing paradigm. At the same time the rhetoric of users as active in a one-to-one relationship of proximity with brands is derived by the necessity that brands have of establishing a personal connection with their customers. This is the brand’s attempt to overcome the massification of goods and

standardization of consumption exchange. In order to avoid the still common conclusion “there is nothing new” one should ask how the very logic of consumption might be conditioned by technological functioning, and by the new logic of social mediation that SM proposes. This in turn might have repercussions for the manner in which marketers operationalize meanings and trickle-down values to consumer desires. It is worthwhile to remark that on SM, brands and marketers are users, exactly as any other individual user is (they are SM consumers). To be clear, marketers on SM do not own or have access to SM data, nor they do have any analytical capability over SM data. Instead marketers are data producers and thus subjects of SM’s data analysis exactly as their own consumers are.

This chapter has sought to trace the contours of consumption’s symbolic exchange, its value production models and the manner in which the fashion system and marketers have operationalized a new culture of subjectivity. Next I reconsider the role of SM as media and the logic it shows in mediating the social. Chapter 4 proposes an alternative approach to SM technology, focusing on SM’s logic of technological mediation.

4 Theory

Introduction

This chapter constructs the theoretical scaffolding of the dissertation. It delineates a semiotic approach to problematize the role of SM as a technological medium and to understand its transformative effects on the representation of sociality.

Chapter 2 has envisioned the need to go beyond the ‘interface’ level in order to understand how SM operations and functionalities might intervene in transforming ‘modalities of the social’. Chapter 3 has defined consumption as a meaningful relational process between individuals and groups articulated by symbols and meanings ‘attached’ to objects. Consumption of fashion is here intended essentially as a socio-cultural process of self-knowledge articulation negotiated through language and media within society.

The aim of this chapter is to construct a theoretical understanding of SM’s technological regimes of mediation. A semiotic approach serves to conceptually frame how SM changes the representation of already established methods of consuming. It allows us to analytically disentangle the complex intermingling of different spheres of reality as they happen to be mediated on SM. Semiotics appears to be relevant, because in contrast to other theoretical constructs, it recognizes the ontological dimension of signification, of signs, and of the meanings agencies involved. On this account, this chapter adopts a semiotic approach with the aim of framing SM consumption as a meaningful space where technology articulates a renewed relationship between the ‘social’ and the ‘personal’. By focusing on technology as an active participant of signification, it becomes possible to problematize SM personalization and the manner in which it enters into redefining modalities and social roles of consumption.

It is contended here that SM operates under a computational logic of mediation that needs to be exposed and problematized. The aim is to lay bare its technological operations and processes that produce the conditions for new social forms of individuality through consumption-mediated practices. Social Media enables new conditions of meaningfulness, acting as a technological personal space that is inhabited by a complex interaction between social media regimes and social consumption (interaction between individuals and groups). Thus the theoretical challenge is to delimit a field where the role of social media technologies can be questioned and eventually assessed against the background of the traditional logic of socio-cultural consumption.

The first section introduces Umberto Eco's 'Theory of Semiotics' and its foundational constructs. Drawing from the ontological and theoretical position outlined in the first section, subsequent sections deconstruct SM mediation as 'sorting, storing and framing' technologies of the social.

4.1 A semiotic approach

Some of the theoretical assumptions that underpin a project of this sort will here be clarified. With social media and personalization technologies, the production of meaning and its stabilization into socio-cognitive forms is not anymore limited to humans, human agency, or institutions (Galloway, 2010, 2011; Langlois, 2011; Lovink & Rasch, 2013; Manovich, 2002). Compared to earlier modes and practices of consumption, such a shift signals a remarkable change.

I use a semiotic approach to look for the distinctiveness of SM's technological production of signification. In so doing, I rely mostly on Umberto Eco's theoretical work. He has defined the contours of a philosophical approach to signification that he referred to as 'general semiotics'. First outlined by Peirce, a general semiotics is concerned with the analysis of different systems or phenomena of signification and communication (Eco, 1986, p. 7). It aims at unraveling general questions regarding methods of signifying, modalities of communication, and their *truthfulness*. "To look for such a deeper common structure, for the cognitive and cultural laws that rule [signification] phenomena, such is the endeavor of a general semiotics" (Eco, 1986, p. 9). The relationship that signification systems entertain with reality and truth has always been fundamental to Eco's semiotic approach. In his 'Theory of semiotics' he defined semiotics as: "the discipline studying everything which can be used in order to lie" (Eco, 1979, p. 7). Semiotics studies signs, not physical objects. A sign is something that standing for something else might very well substitute, presuppose or reconstruct what it stands for. When something is endowed with signification – when it becomes a sign - it always illustrates something more than the things it represents. Signification thus opens a space that is ambiguous and that can be used either to tell a lie or to tell the truth. In any case, "if something cannot be used to tell a lie, conversely it cannot be used to tell the truth" (*Ibidem*). The object of a general semiotics thus is the concept of signs, whereas "signs are not empirical objects. Empirical objects become signs (or they are looked at as signs) only from the point of view of a philosophical decision" (Eco, 1986, p. 10). Signs and systems of signs are *real*, but not as empirical objects, they have a socio-cultural stability and a causal force (I come back to this in chapter 6, section 6.1). Thus signs and signification analysis cannot be reduced to their tokens or 'material bearers', or to their

interpreters. Eco adopts the triadic notion of Peirce's sign: "By semiosis I mean an action, an influence, which is or involves, a cooperation of three subjects, such as a sign, its object and its interpretant, this tri-relative influence not being in anyway resolvable into actions between pairs" (Peirce [5.484], quoted in Eco, 1979, p. 15). Thus he presupposes the act of semiosis as bearing a fundamental connection to a community of interpretants (that can be another sign, cultural traditions or social norms). This relation to a pre-existent chain of semiosis (the interpretant) restitutes to signification its open-ended and ever changing character. Moreover, as Eco highlights, this definition of sign doesn't imply intentionality or artificiality from the sign production side. It can thus be applied to phenomena that do not have a human emitter, provided that they presuppose a human receiver, "this presupposition being not in any way limited to the empirical presence of the receiver" (Eco, 1979, p. 16).

"A sign thus is everything that on the grounds of previously established social conventions, can be taken as something standing for something else" (*Ibidem*). The fact that something can be taken as standing for something else presupposes interpreters only as 'methodological' and not empirical guarantees of signification. In other words, Eco establishes the notion of interpretation and interpreter as "possible interpretation by possible interpreters" restituting to signification its own separate ontological dimension. As Eco himself declares, his theory of semiotics is thus essentially realist (Eco, 1984, 1994, 2000; Eco & Collini, 1992). Undoubtedly relevant is the similar philosophical tenet of Eco's 'contractual realism' and the critical realist perspective approach to semiotic for IS (Fairclough, Jessop, & Sayer, 2003; Mingers & Willcocks, 2014). The common ground between the two semiotic approaches is to posit a semiosis that can be studied and theorized as happening independently of any 'in situ' interpretations that is supposed to trigger (Kallinikos, 2004, 2006, 2010). This project is animated by the same ontological commitment. By adopting a critical realist ontology the following conceptual development will be grounded on the complexity of reality, intended as the co-presence and partaking of different entities that are mediated by technological signification, which are endowed with heterogeneous modes of existence: physical, social, cognitive or abstract. "Such entities do not need to be measurable, or even directly observable, so long as we can postulate that they have causal effects" (Mingers & Willcocks, 2014, p. 52).

Referring back to SM, as we saw in chapter 2, it is very difficult to make sense of the complex interweaving between self-representation, social participation and technological functionalities. Very often, SM studies analyze the effects of SM mediation focusing on two of the spheres involved. They portray SM as channel facilitating a coupling, that is the relationship between two entities, overlooking the third. For example some studies analyze

self-presentation in relation to audiences, overlooking the role of technology (see section 2.1). Some others analyze data production (technology) in relation to business dynamics (the ‘social’), overlooking the ‘personal’ (see chapter 2, section 2.2). Consumption or marketing studies approach SM changes as the refiguring of the relationship between producers and consumers (see chapter 3, section 3.2.2). Although both consumer and producer are social roles enacted by individuals, still the related literature does not problematize to what extent SM’s mediation of sociality might change the social roles it empowers. Other contributions to SM adopt a sociomaterial perspective, which presupposes an entanglement among the three (but very often ‘personal’ and ‘social’ are conflated within the ‘social’ dimension) (Faulkner & Runde, 2012; Scott & Orlikowski, 2012a, 2012b). Using this perspective though, makes very difficult to assess the degree and modalities by which technology might intervene on aspects of the ‘social’ or of the ‘personal’, despite the fact that this is exactly what personalization seems to do. SM technologies produce a new personal world. This new way of representing ‘what is out there’ is set to change the relationship between the ‘personal’ and the ‘social’ through technological functionalities.

This research and the semiotic approach so far delineated adopt a perspective on the SM mechanics of signification production, which maintains as separate the entities partaking in the relation of signification. The triadic notion of signs reintroduces the ‘personal’ dimension in the commonly adopted ‘material’ and ‘social’ equation. The notion of interpretants allows the framing of the traditional socio-cultural conventions of consumption as the ‘social’ to which SM information technologies (the ‘sign’) need to refer to let consumption (the ‘object’ of signification) be meaningful at a personal level. By focusing on the active participation of technology in the production of sense-making models, I intend to look for the specific ways in which SM technologies enable relations between the ‘material’, the ‘social’, and the ‘personal’ to be refigured. Thus, following Mingers and Willcocks I adopt the critical realist view that there are actually three, ontologically independent but interacting structures (Mingers & Willcocks, 2014, p. 49).

Under a paradigm so delineated, this project will analyze the production side of information, intended as “the cognitive and material operations by means of which sign tokens are generated and organized to carry semantic content” (Kallinikos, 2006, p. 52). How can the same set of SM operations and functionalities generate personally meaningful information for each of all the possible interpreters? It is the very nature of the phenomenon under study, a technological paradigm of signification, which somehow requires an understanding of the production side of signs, its structure, rules and internal logic, as presupposing possibilities of signification independently from their interpreters. An enquiry into the production of

meaning is thus not concerned with interpretation but adopts a pragmatic view of signification, which is rather focused on the possibilities of interpretation or sense making. As Eco says “pragmatic has perhaps been allowed to assume too many senses” but if we consider it as: “(i) concerning the interpretation of all the semantic choices offered by the message, and/or (ii) concerning the entire set of presuppositions entailed by the message”, pragmatic can be subsumed within the framework of a more comprehensive semantic theory (Eco, 1979, p. 143).

If we adopt the view of technology as ‘standing possibility’ which empowers or constrains a determined path of signification, as behavioral response or course of action (Faulkner & Runde, 2009), a semiotic enquiry can be framed by studying the entire set of presuppositions particular technological configurations entail. I will use the terms ‘sense making’ or ‘signification’ throughout this work because they imply a larger domain than interpretation. Whereas interpretation is commonly understood as a conscious act of the mind (Sontag, 1966), sense-making or signification also encompass cognition and action responses that can very well happen before or without interpretation and are more aligned with the sense making activities of consumption domains (and decision making in general, see Ariely, 2009). As a matter of fact an approach of this sort helps to problematize interpretation instead of taking it for granted. Very often interpretation is coupled with a specific model of subjectivity (rational actor, informed consumer, interpreter, etc.). This model, it should be acknowledged, has not only already undergone different crises (Baudrillard, 1998; Baudrillard, Schütze, Violeau, & Schütze, 2012; Foucault, 2002, 2012; Foucault, Martin, Gutman, & Hutton, 1988; Mansfield & Mansfield, 2000), but it needs to be questioned once more, and perhaps more relevantly, by the current shifts brought about by technology. SM technology in particular seems to constantly mediate the access to information by constructing standard, personally-meaningful paths (Pariser, 2011). I will come back to this point. The relevant concept to be highlighted now is that by focusing on the entire set of presuppositions that a system constructs, one can critically engage not only with the role of technology as enabling or constraining those possibilities in the first place. Rather, it becomes possible to study what consequences technological signification might have for the emergence of a new model of interpreter (be it a consumer, a user, or a rational actor) against the background of already consolidated social norms and rules. “Software makes the semiotic medium of the sign the fundamental, universal and pervasive ‘stuff’ of social life” (Kallinikos, 2012, p. 80). Humans and human agency might interpret (not always) and make sense of the world and its contingencies, but very often the world and its contingencies are already given, and furthermore in a determined way (Faulkner & Runde, 2012). This research project thus cannot be limited to an enquiry on interfaces or interaction happening

at the platform level. It rather looks for the role of technology as an active agent in the construction of sense-making models. How does this real-time technological production of personally meaningful information stand in relation to established ways of the articulation of self-appearance?

Approaching a similar question in semiotic terms means to ask what are the differences in sense-making production that a specific technological configuration entails. As we have seen, a sign, and system of signs, is something that “on the grounds of previously established social conventions” (Eco, 1979, p. 15) can stand for something else. In short, analyzing the semiotic operations carried out by SM means to look for the dynamics by which technological functionalities and operations rely on given ‘social conventions’ to produce something new – information qua difference - that has the possibility of being accepted as standing for something else. Whereas ‘standing for’ should not be limited to ‘representing’ but also encompasses ‘substituting’. Information as sign has an objective reality, which presupposes a regressive semiosis (what Peirce calls infinite regression) and allows the communicability of signs (see Mingers & Willcocks, 2014, pp. 57-58). Information is commonly defined as a “difference which makes a difference” (Bateson, 1972; Kallinikos, 2006). Its objective newness stands in relation to something else (a pre-existent corpus), which might also be reframed by information and its modulation of signification (Borgmann, 2000). Semiosis is always and at the same time a condition of truth and a condition of lie because it stands for something in relation to something else, which is not given in the act of semiosis, but represented, inferred, presupposed, or constructed.

Thus I will consider SM production of personalized information (the personal) in relation to presupposed social conventions (the social). My aim is to investigate the processes by which SM’s technological configurations modulate personal relevancy as possibilities of meaning that might very well change what it stands in relation to, that is the set of pre-existent socio-cultural conventions related to consumption. It is in this light that this research frames the ‘personal’, the ‘social’, and ‘the material’ interaction, as mediated by the SM signification regime and its constant production of personally meaningful information.

Before delving into the specificities of SM mediation, I should dispel some potential doubts on the terms ‘material’ and ‘social’ adopted here. A growing number of contributions gathered under various labels¹⁶ delve into the ‘materiality’ of social media, framing it as the

¹⁶ I am referring here to various disciplines such as software studies, digital culture, digital sociology, computational culture, social media studies etc. Some of the contributions produced under these labels are reviewed in section 2.3 ‘Technologies of the social’.

set of material and non-material functionalities that sustain SM signification. The central tenet of this concern with ‘materiality’ is to contextualize technology historically, culturally and systemically by exposing its social, material and temporal dimensions (Gillespie, Boczkowski, & Foot, 2014). Certainly the debate sheds light on important conceptual issues. The underlying theoretical assumptions of such debate lie at the core of possible explanations of social changes brought about by SM technology (Leonardi, Nardi, & Kallinikos, 2012). In line with the critical realist ontological commitment of this research and the theoretical approach adopted I believe that it is relevant to specify the meaning of the term ‘materiality’, and to use it univocally for technology, signification, and consumption as well. As previously remarked, technological objects or configurations – such as SM – have an ontological identity that can be posited independently from their material bearers (Faulkner & Runde, 2012; Kallinikos, 2012). Adopting a semiotic approach allows me the possibility of weighting the ‘materiality’ of signifying systems only insofar as it refers to physical properties sustaining a specific way of signification and communication. “All signs have to have some physical embodiment in order to be signs” (Mingers & Willcocks, 2014, p. 62). Without insisting on this point it would be difficult on this basis to understand change in how different media typologies sustain different systems of signification. Under a semiotic lens, a definition of ‘materiality’ encompassing material and non-material properties, might lead to misinterpretations and imprecisions. The risk is to conceal, under the concept of ‘materiality’ thus conceived, a complex technological regime of mediation that shows its main innovation first and foremost as ‘non-material’ infrastructure, that is, software and logical operations (Kallinikos, 2012). On the other hand, studying the ‘materiality’ of technology might very well be taken as signifying the study of the physicality of objects, devices or artifacts. But what would that mean for SM signification? An approach of this sort might lead one to conclude that ‘there is no software’ as Kittler provocatively remarked, but just cables and electrical circuits (Kittler, 2013, pp. 147-154). As Kallinikos has shown, signification is always articulated at the crossroads between form, function and matter (Kallinikos, 2012). By coalescing form and function of a technological object (or signification system) under an all-encompassing label of ‘materiality’, there is a risk of overlooking the specificities of meaning modulation and its causal force on communicative acts (Faulkner & Runde, 2009). The same holds true as far as consumption is concerned. We are still part of a ‘consumer society’ but what sustains the proliferation of material goods and their consumption possibilities (particularly for fashion) cannot be unpacked by looking at their ‘materiality’. On the contrary, as Barthes has demonstrated, the machine of desire and modern myth (of contemporary culture to be clear) has been predominantly non-material (Barthes & Lavers, 1993). As Stiegler has recently put it “*Ce n’est pas le pétrole qui fait marcher le capitalisme, mais la libido*” (Stiegler, 2012).

Thus if technology intervenes in already established consumption modalities of meaning, it is reasonable to hypothesize that it does it on the predominantly non-material level of signification which might even re-modulate the ‘materiality’ of the ‘stuff’ mediated (the ‘materiality’ of consumption for instance, intended not only as ‘material objects’ but also the role of material objects in the construction of meaning possibilities).

In what follows I shall isolate some of the ‘non-material’ mediating properties of SM. To do this, I contend, a different conceptualization of SM is needed. SM’s technological properties of mediation must be exposed. That is to say, a theoretical effort is needed to unpack the logic by which SM is rewriting social communication and consumption participation. SM mediates the social. All in all it does exactly what its label declares. However SM’s technological regimes translate only some aspects of the social, and only in certain ways, re-ordering the relation between old and new social communicative forms through the constant real-time production of personally relevant information (Kallinikos, 1993). Specific technologies such as personalization mechanics are becoming invisible actors of mediation and signification, thus not only should their semiotic logic be investigated, but it also should be reconnected to possible reconfiguration of the ‘stuff’ it mediates.

4.2 Framing Social Media as media

Social media platforms are intricate technical networks modulating different layers of functionalities, operations and interfaces. Not only are the majority of mediating operations they carry ‘non-material’ (Kallinikos, 2012), but also, as I will argue, they have a logic, which partakes in shaping possibilities of signification and communication. As Friedrich Kittler suggests, the difficulty starts in framing media and mediation in ontological terms (Kittler, 2009).

“Philosophy from the beginning has been unable to conceive of media as media, the problem being that ontology deals with things, their matter and form, and not with the relation of things in time and space (their medium). Yet [Kittler] goes on to show that Aristotle was the first to turn the common Greek proposition *metaxú* (between) into a philosophical concept: *tò metaxú* (the medium)” (Featherstone, 2009, p. 3).

Social media is here intended as a medium, having its own existence as a layered bundle of material and non-material operations, which mediate the ‘social’ and the ‘personal’ in specific ways. Thus the objective is to open a set of questions on the nature of technological mediation that will be used to assess whether this mediation has something that goes ‘against the grain’ of established conventions of signification and the values they convey. The aim is to explore to what extent social media functionalities *alter* traditional ways of mediating ‘stuff’, that is, how they produce *artificial* forms of sense making.

“Media as selection, sorting and framing mechanisms, ultimately points to the fact that media visibilities are never neutral; it is always about making the content meaningful” (Bucher, 2012, p. 1166).

I intend to critically engage with this lack of neutrality that social media as information technology shows: the logic of sorting, storing and framing data (Kramer, 2006, p. 94), the production of new forms and functions, and their consequence for the ‘social’ and the ‘personal’ (Faulkner & Runde, 2009). I believe that if one wants to trace emergent phenomena brought about information technology one needs to question how it produces differences.

“Information systems do not simply store and transmit pure information, but rather representations of that information, and the form of the representation itself significantly affects the meaning that the information may generate — what we can call the semiotics of information” (Mingers & Willcocks, 2014, p. 50).

I read as technological mediation the infrastructural work of technology: the way in which a system ‘selects, stores, and sorts’ data as representation of particular phenomena in a particular domain, producing information (difference). SM mediates social communication and provides information that modulates the relevancy of meaning. The platform code imposes rules on social acts (Langlois et al., 2009; Lessig, 2006) through the production of new forms and functions (Faulkner & Runde, 2009; Kallinikos, 2012). “The starting question would not be how telematics facilitate the spread of information but rather if and how they permit a new decomposition into elements and a subsequent recombination in new forms” (Esposito, 2004a, p. 23). I intend here to look for the way in which the infrastructural work of technology – the logic of selecting, storing and sorting - produces differences (new forms of representations) that stand in different relations with existing ways of representing the same phenomena (Esposito, 2008; Kallinikos, 1993).

4.2.1 Databases of every day

“I asked him what a musical score is now.
He said that’s a good question.
I said: Is it a fixed relationship of parts?
He said: Of course not; that would be insulting”
(John Cage quoted in Arnheim, 1974, p. 10).

Social media are gigantic databases, archives of every day (Beer & Burrows, 2013). As abstract and open-ended infrastructures of contemporary experience (Zittrain, 2008), SM database records what Arvidsson (2004, p. 467) calls “the communicative action of life in all its walks”.

“The database has a critical but under-theorized role. Like much in the field of infrastructure and the technical and sociological discourses relating to it, it has the grey, attenuated, aesthetic quality of being boring” (Fuller & Goffey, 2012b, p. 324).

It is also true that it has the quality of encrusting a set of semiotic-material characteristics. Database infrastructure exposes the way in which social media mediation disaggregates ‘the

formerly indispensable' (Esposito, 2004) in bits and digital-occurrences and molds them until they fit pre-existent data fields. 'Formerly indispensable' is intended here as signifying the continuum of social communication; the set of established conventions of consumption signification. As Gehl states, SM can be understood as "empty templates" that invite "users to fill them in" (Gehl, 2011, p. 1232). It is only after being structured, ordered, and framed under the rules of database, that what is gathered on social media becomes computable (Kallinikos, 2006, 2009), and is 'contingent' (Esposito, 2004).

"What separates the eighteen-century archive from its nineteen-century successor? In short, its trust in the possibility of registering contingent time in the form of discrete traces (records), the hope that the present moment - contingency itself - might become subject to measurement and registration" (Spieker, 2008, p. 5).

Databases derive and at the same time differ from previous offline techniques of storing and recording files. Structural organizing principles are bounded to the identity of the things that needs to be organized, to the nature of their bearers, and the means used to organized them (Svenonius, 2000). In the case of databases, data-tokens and their interplay with technologies of data selection, storing and retrieval still maintain the heritage of its antecedents: archival practices, bookkeeping and accounting as derived by the modern bureaucratic order and its method of representing as controlling (Kallinikos, 1995, 1996, 2001). Consistently with this position, Castelle has shown how a Weberian 'ideal type' of bureaucracy, emphasizing the importance of written documents as the focus of 'modern organized action' has been central in database development (Castelle, 2013). "Precision, speed, unambiguity, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs" are essential in the development of the first theory of 'data society' and remain dominant in the conceptual development of today database organization (Weber, Roth, & Wittich, 1978).

At the same time, database organization principles, obeying the digital nature of data and technical capabilities of software, subvert formerly encrusted techniques of record keeping, storing and retrieval. One of the main innovations of technological information organization, as Weinberger has shown, is that it relies on the prevalently 'non-material' composition of its data-tokens. The lack of physicality of data-tokens (that is, bits rather than atoms) opens possibilities for endless re-production and re-organization. In the messiness of the "third order of order", which is how Weinberger calls it, ideas come unglued and can subvert traditional ways of seeing the world (Weinberger, 2008). Ultimately, digital data escapes not only physical limits but it also evades traditional knowledge classification principles as database techniques make the minimal entity of the data field (rather than the category) the primary unit of technical manipulation. Weinberger's thesis optimistically highlights the

freedom acquired by the collapse of rigid, and often superimposed, categories and favors the power of a miscellaneous organization. Effectively, classification and categorization, as ways to order knowledge of the world, are at the same time devices to construct and impose specific versions of the world. Archives are sites of power, as Derrida (1998), Foucault (2012), and Bowker (2008) among others have shown. Categories create moral and social order (Bowker & Star, 2000), make up people (Hacking, 1999) and create social facts. Physical limits of data-tokens, and their corresponding rigid classes or categories have been able to impose a certain type of relational logic on information organization. They have functioned as compasses to orient elements of structuration in a given set, and consequently their access and possibilities of signification¹⁷. In the absence of physical limits and rigid categories, I wonder, what are the intrinsic characteristics of a given set and its elements able to impose a specific ordering logic? What are the consequences of this alternative structuration logic on the set of presuppositions entailed by the forms of the message produced?

“Indeed, how could one start constructing an archive without knowing the principle of its construction, without knowing in advance, among other things, what to select?” (Chang, 2010, p. 204). Data structuration responds to particular principles and assumptions that can be content-agnostic, but never structurally-agnostic. They can be flexible, open-ended, inclusive, still they are built under the strict rules of technical specification, formal and technical categories (Bowker & Star, 2000). As a matter of fact, databases of web 2.0 platforms embed technological formalization of order that lend themselves to post hoc constructions (Gehl, 2011), which are technologically empowered ordering criteria *per se*. Databases are structured collections of data organized under different models or typologies: relational, object oriented, or hierarchical (Manovich, 2000, 2002, 2003). They imply a particular vision of the world that is modulated under the more or less flexible logic they adopt in relating digital items or objects to one another. I believe it is in their technologically-empowered ability to relate things differently, to re-order them under determined principles that make SM, and the databases that sustain it, sites of possible social meaningful reconfigurations (Cheney-Lippold, 2011).

It is exactly this semiotic-material property that interests this project: the logic of infrastructural production of differences, the mediating specificities of sorting, storing, and selecting data to construct new personal forms of consumption. Different contributions

¹⁷ At this point one rightful remark would be to question who effectively has complete access to SM archive and thus to its interpretation. I leave this relevant issue open, referring to scholarly contributions that have exhaustively tackled the argument (Gillespie, 2010; Langlois et al., 2009; Lovink & Rasch, 2013; van Dijck, 2013).

remark how databases have been underemphasized in the historical study of computation (Fuller & Goffey, 2012a, 2012b; Mackenzie, 2012). Effectively, for SM studies in particular, the abundance of programming (code) or algorithmic analysis remains unmatched by analysis aimed at unpacking SM as “archives of everyday” (Beer & Burrows, 2013). To my knowledge very few contributions have focused on the semiotic-material role of databases for SM. Still, they sustain the algorithms procedures able to reorder the meaningfulness of information on SM platforms and their possibilities of interaction (Mackenzie, 2012). Under present developments, databases represent and construct a world that embeds assumptions derived from science, mathematics and bureaucratic disciplines, as well as the contradictions intrinsic to their own relation. As Zwick and Denegri Knott argue (2009, p. 227): “They embody a specific mode of representing the world” deriving from numerical inscriptions (see also Zwick & Dholakia, 2004).

Databases are constructed as tabular forms, which encode symbols in data fields. They are semiotic systems insofar they abstract and encode phenomena into signs, symbols and relations. In every semiotic system, structure has always been studied as the possibility of any given whole of entertaining differential relations among its parts (Barthes, 1967; Eco, 1979; Kallinikos, 1993). That is, relations that produce differences. Eco defines a structure as an s-code¹⁸, “that is a system (i) in which every value is established by position and differences and (ii) which appears only when different phenomena are mutually compared with reference to the same system of relations” (Eco, 1979, p. 38)¹⁹. Thus databases can be approached from a semiotic perspective insofar as their structure and relations “constitute one of the planes of a correlational function called a ‘code’” (codes are bigger systems and include language or digital information, which are always articulated on different planes such as content, expression, and social conventions) (*Ibidem*). By intersecting other systems such as other s-codes (for example other datasets, software, or programs) or codes (language), databases partake in constructing sense-making possibilities on SM platforms. Databases are curious spaces where symbolic representation and numerical ordering overlap

¹⁸ He continues: “s-codes are structures that can also subsist independently of any sort of significant or communicative purpose, (...) they are made up of finite sets of elements oppositionally structured and governed by combinatorial rules that can generate both finite and infinite strings or chains of these elements. In social science (as well as in some mathematical disciplines) such systems are almost always recognized or posited in order to show how one of such system can convey all or some of the elements of another such system, the latter being to some extent correlated with the former (and vice versa)” (Eco, 1979, p. 38).

¹⁹ Given that semiology or structuralist positions are usually opposed to Peirce cognitive-interpretative semiotic, it will raise some doubts the fact that I am taking here a structuralist stance after having introduced Peirce notion of sign. In reality Eco semiotic approach draws both from Hjelmslev and Peirce reconnecting the two traditions. Hjelmslev work, in his words, “shows how semantic (and therefore conceptual) competence is of categorical type, based on a segmentation of the continuum by virtue of which the form of content present itself structured in the form of opposition and differences”. However, he continues, when we need to account for our way of knowing and expressing what we know we should refer back to the “network of encyclopedic properties, arranged along the potentially infinite threads of unlimited semiosis”. That is Peirce notion of interpretant as exposed in section 4.1. (Eco, 2000, pp. 251-252).

in structuring data and creating something ‘new’, information: a difference that makes a difference. SM databases assimilate phenomena by way of fitting a formal scheme that is prevalently spatial and mathematical:

“The analogy between technical and philosophical system-building is close: both are intended to assimilate some territory of phenomena in a systematic and complete way to a formal scheme. Technical work is special in that, unlike most philosophical enterprises, the ‘formal scheme’ in question is ‘formal’ in the strong sense of ‘mathematical’” (Agre, 1997, p. 45).

As Zuboff contends, the electronic text of an organization, “anticipated in the data-base environment, is not discrete but comprehensive and systemic” (Zuboff, 1988, p. 179).

4.2.2 *A computed sociality*

At this point though, before conceptually framing the new forms of sense-making consumption activities that SM mediation constructs, one should ask what exactly SM databases sort. As Bowker argues: “what is stored in the archive is not facts, but disaggregated classifications that will be reassembled to take the *form* of facts about the world” (Bowker, 2008, p. 18, Emphasis added). Social media mediates the ‘social’, insofar it selects and stores some aspects of social communicative phenomena encoded as data, and represented in tabular forms. In return, it produces information that constantly suggests, recommends and constructs new forms of social communication and interaction.

“Archives do not record experience so much as its absence; they mark the point where an experience is missing from its proper place, and what is returned to us in an archive may well be something we never possessed in the first place” (Spieker, 2008, p. 3).

The previous section has remarked on how databases' structural logic is often overlooked in SM mediation. I believe it is worth pointing out that databases' mediating power is often not considered adequately in appraising SM representation of sociality. As a matter of fact, databases of the social might only ‘select, store, and frame’ representations that appear as functional to their own logic. To be clear, the mediating power of the database is never exhausted in the production of a ‘final result’. It seems plausible to suppose that database mediation takes part in ‘modulating’ the performance of social participation in order to fit its own functioning logic. As Manovich argues, databases' logic is transposed on the social experiences that databases sustain (Manovich, 2002). Databases, he claim, disjoint the space of the narrative and by operating on a different order, condition a new type of fruition. As chapter 2 illustrated, SM disrupts the classical notion of self-narratives. The logic under which self-representation is experienced derives from the different principles upon which data are reorganized. What is returned and the way in which it is experienced, may well be something completely new. Representations are constructed under a different logic that may change the phenomena represented. As Zuboff (1988) has powerfully shown, when reordered under technological criteria, work is transformed into something else. The spaces

of knowledge and action that technological order composes are dramatically different. Tacit knowledge and experience are substituted by a reading act, because work is represented by a written text that follows other logics of fruition and experience.

The continuum of socio-cultural communicative conventions and acts happening on SM that are experienced as platform-interaction is already a digitized version of sociality. Yet, the sustained participation that SM allows is once again abstracted and encoded into data and represented by data fields and relations. In the technical-semiotic operations SM carries out, social data is the by-product of SM social participation, that is, it *stands for* the social participation programmed by SM. SM as a signification system thus constructs a data-version of the social it mediates. It represents the social so as to fit the logic of database reordering and in so doing it restitutes something that was not there in the first place. It is on that ‘something’ that SM sociality is experienced.

Van Dijck argues that: “making the Web social in reality means making sociality technical. Sociality coded by technology renders people’s activities formal, manageable, and manipulable, enabling platforms to engineer the sociality in people’s everyday routines” (van Dijck, 2013, p. 12). Following Kallinikos’s computational rendition of reality (Kallinikos, 2009) I argue that the current development of online participatory activities as empowered by SM calls for a theoretical reconsideration of the relationship between social interaction, computational mediation, and the resultant new forms of social consumption.

Information technology disaggregates the compact texture of social processes and narratives into manageable, simple new forms. In turn, these descriptive and prescriptive stages of consumption become intermeshed with language and interacted by users. Participatory practices thus seem the result of complex technological mediation processes. Online signification, rather than being ‘interpreted’ by users, becomes modulated by “the vertical stratified and functionally interdependent” (Kallinikos, 2009) computational operations of filtering, reordering and re-aggregating that the medium affords. SM and personalization systems thus construct signification and consequently possibilities of knowledge and action on consumption domains in different ways. SM does not only work in the ‘remediation’ or ‘mediatization’ of everyday life (Beer, 2008; Graham, 2004; Lash, 2002), but constructs new conditions to access life experience. SM and the personalization it empowers operate under a precise logic. The new technological order, the ‘personally relevant for you’, is in turn able to modulate the meaningfulness of consumption as act of learning about oneself in the social world.

“The locus of power is shifting away from control over content to the management of degrees of meaningfulness and the attribution of cultural value” (Langlois, 2013b, p. 99).

As Lash has said, “information order is inescapable (...) and it gives us no longer an outside place to stand” (Lash, 2002, p. xii), it renders “forms of life technological” and even if unwillingly: “we make sense of the world through technological systems” (Lash, 2002, p. 15). If we want to explain the possibilities of signification that a technological mediation of consumption affords, we should critically engage by questioning what kind of participation SM technologies enables and why. Stiegler calls this modality of rendering the social 'grammatization'. He defines grammatization as:

“The process of formalization and discretization which permits, on one hand, the *reproduction* of what is discretized, and on the other, operations, of computing or control, and finally, a reflexivity, or critique, of what can be iterated, and which, by way of its iteration, is able to produce a difference, meaning also an individuation, meaning then again, a difference” (Stiegler, 2013, pp. 25-26, Emphasis added).

I would rather suggest that instead of 'reproduction', the social so grammatized seems to undergo a computational representation. That is, a representation programmed to fit the logic that technologies of sorting, storing and selecting embed. On one hand, the social is represented as computable, in the sense that its representation obeys computational needs. On the other, the experience of a computed sociality adheres to the computation logic of representation.

SM produces personalized information on the basis of a computed sociality, and in so doing is set to change both. It may reconstitute something that was not there in the first place – a subjectivation (the processes through which we become specific subjects) empowered by network functionalities, data ordering, and computation. In turn, such methods of becoming subjects might reinforce determined ways of representing the social, initiating a recursive feedback loop with possible unintended consequences. As Langlois states, SM provides the patterns through which communication and social exchange can become “an act of meaningful recognition of one’s place in the world” (Langlois, 2013, p. 60). Subjectivation is not just a matter of user data production and exploitation (Lovink & Rasch, 2013, p. 55). It rather becomes the shifting relation between individuals and a technologically-mediated experience of their selves against the social, so constructed. Arvidsson argues that SM produces a *networked subjectivity*, where the presence and continued evaluation of others becomes over-emphasized (Arvidsson, 2012).

Surely, SM empowers users with a set of possibilities that weren't present before. However, SM technology also intervenes in mediating the 'social' and modalities of social experience. It shapes the degree by which meaningful relations between one-self and others are

articulated. Little has been written to expose the logic under which SM represents particular aspects of sociality. The very concept of participation that SM promotes should be problematized, by unpacking the representational capabilities of the social data it produces, and the information feedback loops it initiates.

4.3 Conclusion

This chapter has sought to construct a theoretical scaffolding to unpack SM's mediation of the social.

A semiotic approach has served to theorize the distinctive place of technology as an active participant in the production of signification. In the tri-relative relation of semiosis between sign-object-interpretant, information technology enters with its logic, rules, and software operations. Information technology has a non-material ontological reality and causal force that exerts on the logic of representation.

I have defined this logic of representation as the 'selecting, storing and framing' mechanics that SM databases possess. Data normalization and structuration reorder knowledge under different principles. Although they surely innovate the rigidity of old classification systems, their distinctive contribution to a real time 'system of social classification' (as SM seems to be) is still under investigation. In subsequent sections I advance the hypothesis that social databases work by way of substituting old categorical classification with a new ordering based on the functional logic that computation requires. In order to be computed, data needs to be represented in certain ways and not in others. This two-way operation constrains data representation and the logic of representing that cascade into a new computed sociality, and in the production of new social forms. Eventually I observed 'individuality' (or subjectivity) as a social form seems to undergo a new technological mediation.

Following this general discussion, next chapter frames experiences of consumption on social shopping platforms against its traditional counterparts. The intent is to refine, under the approach just delineated, the understanding of SM mediating properties and how they might disrupt the 'formerly indispensable' socio-cultural consumption conventions. By doing so, I will pave the way for the empirical investigation to unfold.

5 Analytical Framework

Introduction

This chapter proposes a conceptual framework, which will be used to analyze the experience of consumption on SM. The chapter bridges the literature on consumption reviewed in chapter 3 with the SM literature (chapter 2). The need to build a conceptual framework arises from the gap individuated in the analysis of consumption as a ‘modality of the social’ on SM platforms. Little has been produced to understand how consumption can be transformed by SM functionalities and representation capabilities. As seen, SM is not just a communication channel. It doesn’t just facilitate social participation or self-performance. On the other hand, assessing SM as the ‘bad boy of capitalism’ exhausts the impact of a complex phenomenon to market dynamics and user exploitation. SM has a distinguished set of technologies that become involved in the organization of sociality: its meaning, values, and social communication. As the previous chapter observes, data architectures, specific functionalities and algorithmic mechanics have an impact on how sociality is lived and experienced.

The diffusion of such peculiar technological configurations on consumption activities is rapid and all encompassing. From music platforms such as Spotify²⁰, to movie platforms such as Netflix²¹, the number of SM platforms for consumption is mushrooming. Importing data and functionalities from the most popular sites such as Facebook and Twitter, a variety of interest-specific social media, among which fashion related platforms have a particular relevance, are increasingly adopted. However the importance that these SM platforms have, goes beyond user and organization adoption. They testify the influence of a ‘social media model’ to facets of social life. They do not exhaust their sphere of competence only to data extraction or user exploitation. Certainly, the very possibility of gathering information on user interests and behaviors is what appeals to marketers. Indeed, as we saw in chapter 3, SM seems to perfectly fit some major marketing needs. However I argue that what remains unquestioned is the peculiar logic that a ‘SM model’ might impose on the representation of consumption experience. In chapter 3, I defined consumption as the socio-cultural process

²⁰ “Spotify is a commercial music streaming service provider. Launched in October 2008 the service has approximately 10 million users. Music can be browsed by artist, album, record label, genre or playlist as well as by direct searches. On computers, a link allows the listener to purchase selected material via partner retailers”. See <http://en.wikipedia.org/wiki/Spotify> (Last Accessed 23/10/13).

²¹ “Netflix is the world’s leading internet television network with more than 33 million members in 40 countries enjoying more than one billion hours of TV programmes and films per month streamed over the Internet to PCs, Macs and TVs via a wide range of devices. Consumers sign up for a subscription, watch and rate the films and TV programmes they’ve watched through their TV or on the Netflix website. Netflix takes these ratings and pairs them with billions of other ratings by other Netflix members to accurately predict films and TV programmes members will enjoy.” See www.netflix.com (Last accessed 25/5/13)

through which individuals and groups negotiate norms, values, and beliefs that come to be re-engaged to objects, brands, and consumption symbols. By inhabiting a consumer role, individuals enter into the negotiation of values of a general socio-cultural system and construct a sense of self. SM has pre-determined forms of interaction which constrain organizations and consumers alike. It suggests participation along with pre-established behavioral corridors. Along these lines very little has been written.

The framework proposed in this chapter constitutes a map to guide the empirical analysis of experiences of consumption on SSP. Although it draws from the literature reviewed in chapter 2 and 3, the conceptual framework has also been designed by taking into account major themes, which emerged during the pilot phase of this research (for a detailed account see chapter 6, section 6.3 and appendix 11.1).

The first section introduces the framework and explains the subdivision of consumption into three moments: ‘Search and discovery, Selection, and Experience’. Subsequent sections delve into each of the three phases by comparing traditional consumption mechanics with SSP affordances of consumption. A final section summarizes the main points.

5.1 Social Media consumption: an analytical framework

SM in general, and social media for shopping (social shopping platforms - SSP) in particular, sort, select, and store social data: those data generated as a by-product of newly created forms of social engagement (Beer & Burrows, 2013). SSP go a step further, insofar as they seem to encompass not only the “communicative walks of (consumption) life” (Arvidsson, 2004), but also the wholeness of the consumption process. Recalling that consumption is not seen just as relationship between producers and consumers, but is rather conceptualized as negotiation of social values through consumption activities. In this sense consumption is a space of knowledge articulated by institutions and activities that become the means by which individuals enact a consumer role and construct a sense of self.

The framework depicted below (Table 1) confronts the current participatory activities afforded by social shopping platforms with traditional fashion consumption dynamics (first row).

CONSUMPTION EXPERIENCE <i>Analytical Framework</i>	SEARCH & DISCOVERY		SELECTION		EXPERIENCE	
OFF-LINE CONSUMERS' BEHAVIOR MODELS	<i>Social</i> Groups belonging W-o-m (Word-of-Mouth) Bottom-up Trickle down/ Across Models (social interaction)	<i>Cultural</i> Advertising Editorials Consumption of cultural products (<i>films, photo, video, stories, myths</i>) Knowledge/brand awareness	<i>Social</i> Imitation/Differentiation Model (social negotiation)	<i>Cultural</i> Adoption of lifestyle models/ Appropriation of symbolic goods/ Possession (ownership) Choice as exclusion of alternatives	<i>Social</i> Role internalization Group belonging Social identity Social reward	<i>Cultural</i> Aspirational consumer behaviour Pleasure seeking behaviour Active evaluation (<i>bricolage/ Identification/ Disidentification</i>)
MCKINSEY ONLINE CONSUMER DECISION JOURNEY	Initial consideration / active evaluation (researching potential purchases)		Closure / buying act		Post-purchase/ Consumers' evaluation (experience advocacy and active evaluation)	
SOCIAL MEDIA	Browsing menus or lists of suggested items Browsing menus of predefined categories Browsing friends or followed profiles' lists		Liking (others signs of consensus) Adding: click through images/ editorials or others' profiles/lists of items/ collections Posting and sharing (automated features) across platforms Faux buying Buying		Immediate reward as others' liking/ re-posting on their profile/ Comments Conversation (engagement) Sharing Profile performance (social interaction) Buying	
	↔ <i>information feedback loop</i> ↔		↔ <i>information feedback loop</i> ↔		↔ <i>information feedback loop</i> ↔	

Table 1: Analytical framework of consumption.

The framework has been elaborated by drawing on different sources. The first row exemplifies some of the activities reviewed in chapter 3 (see Evans et al., 2009). The second row exposes the McKinsey consumer decision journey (Court et al., 2009). The third row builds on the themes emerged from the pilot phase of the research design (see chapter 6, section 6.3).

The three moments of 'search and discovery, selection and experience' clusters activities representing different moments of consumption insofar they have a conceptual uniformity and common semiotic-material characteristics (Beer & Burrows, 2013; John, 2013). The framework proposed thus serves the purpose of conceptually unpacking conventional consumption practices and how the different activities programmed on SSP relate to them. The aim is to open an analytical space upon which to question technology as an actor in the construction of a new, meaningful process of consumption. The subdivision in the three moments of 'search and discovery, selection and experience' is just a conceptual convenience, an analytical device used to simplify the comparison with traditional modes and to emphasize differences. It will also be used as guide for the empirical investigation and data analysis (see chapter 6) and further discussed in chapter 9. On SSP it seems that the three stages not only overlap, but are linked by a series of information feedback loops, which constantly re-tune them. The act of 'selection' provides information to adjust product recommendations. Feedback from users is in turn employed to suggest selection activities and so on and so forth. It is clear that experience of consumption online overlaps with

communication. The continuum of communication and consumption, by being mediated by technology, is already reorganized, so to say, along a different set of technologically empowered activities that merge what has been traditionally distinguished as the two acts of communication and consumption.

The central row of the framework exposes the ‘McKinsey Consumer Journey Model’ (Court et al., 2009), which has been successfully adopted as a reference model by the majority of marketers. The model is useful in considering the difference between offline buying, online buying (as operationalized by marketing consultants), and social media shopping. The McKinsey model already considers the act of buying as just a moment in the relationship between consumers and brands. On this account, consumption experience becomes a never-closed circle encompassing the various moments preceding and following the act of buying. The model stresses the importance of connecting with consumers, it delineates key moments where opportunities to manipulate consumer decisions are increased. Consumption online becomes a never-ending lifecycle, where marketers and communicators are engaged in finding ‘touch-points’ with consumers, increasing marketing opportunities and constantly evaluating their communication effectiveness²². However technology has no place on McKinsey model, and consumption is still limited to the relationship between consumers and marketers.

On SSP the conditions of consumption seem to be somehow different again (bottom row). Not only have they been mediated by social activities – the social communication continuum as it has been digitalized – but they also introduce the presence of the ‘social’, intended here as the presence of other users and their activities, as well as the presence of technology as suggestion and personalization mechanics. Deconstructing the online participatory experience of consumption aims at sketching an analytical path to make sense of the distinctive properties of mediation that SM shows. Hence the following description of the process aims at re-opening SM as a consumption mediating platform, exposing its mediating infrastructures and reintroducing technology as an active participant in shaping the individual and social experience of consumption.

5.1.1 Search and Discovery

Traditionally, based on word-of-mouth (WOM) or social interaction, fashion communication - the discovery of new fashion and its diffusion - has been bounded to physical (and thus

²² Naslund, A., *Social Media, Sales, And how they work together*, RADIAN6, 7/12/2010 <http://www.radian6.com/blog/2010/12/social-media-sales-and-how-they-work-together/> (Last accessed 15/05/2012).

socio-cultural) contexts and negotiated within groups in which family, peers or institutions have been the major influences (Hines & Bruce, 2007). Urban setting and particularly fashion cities as melting pots of different cultures and subcultures have been keys in favoring bottom up process of the discovery and diffusion of new fashions (Malossi, 1998; McRobbie, 1999; Polhemus, 2010). In this case the reaction of fashion production has been the co-option of the new trend into mainstream fashion and re-use of it as a lifestyle model (Polhemus & Procter, 1978). The establishment of fashion magazines with their authority and authorship (the power of creating fashion mythologies) filtered down (and filtered up sometimes) new tendencies, identity models and lifestyles, targeting and constructing their own groups of readers (Crane, 2000; Crane & Bovone, 2006). Acting as gatekeepers they had the power of making or breaking designer reputation and influence production and consumption of fashion (Jaeger, 2009). The ‘sort, store and frame’ mechanics of mediation in this model, poignantly discussed and defined by Barthes as ‘written fashion’ (Barthes, 1983; Barthes et al., 2006), have been clearly based on the expertise and authority of fashion opinion leaders. As seen in chapter 3, marketers and advertisers operationalized lifestyle models and fashion mythologies within the marketplace through the use of communicative strategies, brand management, and marketing classificatory devices (Corbellini, Saviolo, & Connelly, 2009; Jackson & Shaw, 2009; Zwick & Cayla, 2011).

Discovering new fashion or finding information via SSP has become easier. In the absence of meaningful relations (bounded in socio-cultural contexts significant for us) however is not so easy to trust sources of information or to define what is really relevant. Who decides what? It has been demonstrated that the abundance of information of every kind and its easy accessibility has changed the production and distribution of content (Anderson, 2010). Against this background technology acquires a relevant function, search engines and algorithms for instance are substituting the role of experts and tastemakers in filtering content accessibility and consequently conditioning the possibility of discovery (Introna & Nissebaum, 2000). In 2005 John Battelle had already defined search engines as “database of intentions” (Battelle, 2005). By tracking, storing and mining search habits of users, major players such as Google were assumed to understand how users behave in general terms. As Halavais points out: “it seems unlikely that those behaviors have not been changed significantly by the use of a search engine. No new technology leaves us unchanged, and often the changes are unexpected and unpredictable” (Halavais, 2008, pp. 30-31) Users respond to search box functionalities, and to search criteria in general, by adjusting their behavior to them. In turn, search functionalities adjust to users’ newly learnt behavior.

However it should be noted that is very difficult (if not impossible) to operationalize an objective value – and thus objective relevance criteria – for fashion goods. As seen in chapter 3 for example, brands today strive for the active involvement of communities. It is by leveraging the presence of significant others (celebrities, likeminded people, friends) that brands amplify their own symbolic trust mechanisms. By leveraging the ‘social’ it is easier to persuade consumers of the effectiveness of the adoption of brands and the reward it might bring. Experiments such as ‘Google-Boutiques’²³ have failed because they have not considered the social elements intrinsic in fashion valuation. In the midst of information about fashion, unbounded from socio-cultural contexts, the trade-off between accessibility and trust is too high for users. The need for trusted sources in mediating the access to fashion information is precisely where SM technology intervenes.

SM today is a vast universe of different platforms. On top of the most famous and general networks based on ‘social graphs’, niche networks are gathering the attention of brands and communicators. These SSP, based on ‘interest graphs’²⁴ are gradually integrating SM and commerce functionalities, obtaining a high findability of information (thanks to the interest based networks) and an increased level of trust, given their integration with social graph networks. Almost all the platforms dedicated to particular interests (from music to fashion, but also newspapers and other socially oriented cultural consumption websites) tend to favor the login through Facebook or Twitter. In so doing they combine the power of ‘sharing’ with friends (social graph), to the power of ‘following’ like-minded people (interest graph). On SSP, users are already identified by their general SM profile, friends, and activities. The SM login allows for a first and partial personalization of the content²⁵ and the cross sharing of all the consumption activities across platforms by default²⁶. This ‘frictionless access’ (it’s easier to join and to disclose) and ‘frictionless sharing’ benefit both parties. In fact user activities acquire visibility and SM platforms maintain a continuous data exchange through sharing²⁷.

²³ I am referring here to Google’s failed experiment of selling fashion goods by using insights and analytics derived from the computation of its own hits and links mechanics. As the commentator says: “It seems that selling stuff online, and in particular selling fashion online, is a really hard and specific thing. Even Amazon, the undisputed king of e-commerce, had to relent and buy Zappos after failing to compete with them”. Gobry, P-E, *Google’s Big Ecommerce Bet Is a Trainwreck*, Business Insider, June 15 2011. See <http://www.businessinsider.com/google-boutiques-com-2011-6> (Last Accessed 26/05/2014).

²⁴ So as social graphs are maps of our social media connections, interest graphs are maps of our interests that follow us across different platforms. They are the key to a personalized web experience. See Rogers David, *The future of the Social Web: Social Graphs Vs. Interest Graphs*, ReadWriteWeb, 30/09/2011, See: http://www.readwriteweb.com/archives/the_future_of_the_social_web_social_graphs_vs_interest_graphs.php (Last accessed 27/03/2011).

²⁵ Basic user information is imported (such as age, location, gender, etc.) and this allows for a ‘first hand’ standard personalization.

²⁶ Unless specified, the new niche SMs share user activity automatically on Facebook or other general platforms.

²⁷ Particularly after the recent Facebook introductions of the open graph and time line all of these processes are automated. See Houston, T., *Facebook Open Graph launches with 60 new partners, brings new verbs to*

SSP (also known as ‘social curation platforms’) encourage users to exhibit their own tastes through precise instructions. Users are endorsed to ‘follow’ brands, products, retailers, bloggers and other users, constructing a list of interests. On the basis of this ‘taste data’ computation, the platform extracts meaningful information and builds a personal experience of discovery. Browsing thus becomes a search for fashion information already filtered by personal interests, others interests (people ‘followed’) and the logic by which these searches are informed (data architecture and algorithms mechanics). In partial reaction to the suggestions, ‘à la Google’, this new wave of social curation by social media platforms advocates the exclusive use of friend and network suggestions as a more nuanced approach to trend discovery. The content can be either directly curated by the platform editors or alternatively by the users who curate and aggregate content without the support of algorithm suggestions. Not all the platforms however can rely exclusively on just one suggestion mechanic and very often they use a mixed approach. Suggested items and user choice compose a highly structured information landscape that is constantly tuned to match users’ personal interests.

These platforms claim to foster user autonomous aggregation by letting user gathering under ‘latent groups’ (relationships *in potentia*). SM networks allow users to associate on potential common consumptions patterns, relying on the social mechanics of influencers (or evangelists as they are called) to leverage trust and thus speed the diffusion of trends (Carrol, 2009). Social influence has always been a powerful force in shaping fashion diffusion but on SM I suggest, it goes through a remarkable technological mutation. There is a ready-made list of people that can be followed which appears to be different from the shared socio-cultural context of ‘real life groups’. Consumers use social media to get the information they need quickly and efficiently²⁸. Diffusion mechanisms were previously empowered by the indirect imitation of social learning, and social comparison (Festinger, 1954). On SSP they seem to be closer to direct imitation (copying), and exhibit different diffusions patterns (such as homophily and viral diffusion) (Bentley, Earls, O’Brien, & Maeda, 2011; Duhigg, 2012). “Tastemakers are created almost overnight, their ideas passed around the word virally (...) others follow and copy them”²⁹.

Timeline, The Verge, 18/01/2012 <http://www.theverge.com/2012/1/18/2717453/facebook-open-graph-launches-mark-zuckerberg-new-partners> (Last accessed 13/05/2012).

²⁸ Geddes-Soltess, Z. *Social Media and the future of consumerism*, Radian6, 24/04/2012, <http://www.radian6.com/blog/tag/consumer/> (Last accessed 15/05/2012).

²⁹ Waters, R. (2012) *Online behavior: March of the tastemakers*, Financial Times, 25/03/2012, (Last accessed 13/05/2012).

5.1.2 Selection

Previously we saw how the logic of adoption of new fashion was an integral part of social interaction and interweaving of cultural learning, whereby consumers were processing information and knowledge – even unconsciously – and eventually buying clothes. Online, everything seems to change. Selection has traditionally been a holistic process bounded to discovery, learning, external influences and consumer interpretation of fashion communication. What consumers see and discover online is not bounded to where they are or with whom they interact in real life. Consumers are pushed to select at every step of their online experience in order to give as much indication as possible about their preferences and to let the platform help them in selecting again. Thus selection is afforded as selection of information already aggregated and processed into predetermined categories and forms: lists, menus, and collections. The potential disruptive abundance of choice, that online is not restrained by material conditions (such as resources or time) or contexts, is re-ordered by technological functionalities and operations so as to help consumer search and select. Consumers can sort items by price, color, material, designer, and retailer and now even by the selection of others. The limitations of social contexts and material resources appear to be overcome by a re-ordering based on information that is conveyed as ‘personally meaningful’.

Consumerism emphasizes a representation of choice as an indispensable right. At the same time it submerges consumers with an overwhelming array of items, goods and choice alternatives that endangers consumers’ very own possibility of choice (Ilmonen et al., 2011). This brings to the fore the contemporary paradox of choice: consumers consider indispensable to have the majority of the alternatives possible and believe that the lack of alternative is a threat to their own freedom. However, choosing among infinite alternatives is not only impossible but provokes anxiety, frustration and paralysis (Carr, 2008; B. Schwartz, 2005). As Carr says, “more choices don’t necessarily mean better choices” (Carr, 2011, p. 151).

I believe that selection exposes the way in which technology integrates, mediates, and changes traditional representations of choice. On the one hand, choice lies at the center of consumption. As seen in chapter 3, consuming is ‘freedom of choosing’ and thus ‘freedom of being’ (Belk, 1988; Gabriel & Lang, 2006). It is in this sense that consumers have been defined as identity seeker and makers, because the market offers them the symbolic resources through which they can exercise their freedom of being (Bauman, 2007b; Salecl, 2011; Schwartz, 2005). Likewise, marketing evolved toward a self-governing strategy where

consumers are constantly suggested to choose among their multiple selves. On the other hand, personalization of information is meant to aid consumers to become better choosers and thus better consumers. It is by selecting through a technological mediated environment that consumers can have more options, less constraints, and in general a more efficient or rational power of choice (Ayres, 2008; Elmer, 2004; Turow, 2012).

As Manovich comments: “what was a set of social and economic practices and conventions now became encoded in the software itself. The result is a new form of control, soft but powerful” (Manovich, 2002, p. 52). Selection in some ways is represented as personal choice. The act of selection is enacted as a personal statement even if, in the majority of the cases, it simply follows indications by the software. The interaction programmed online is constructed as a selective activity and is enacted by selection as ‘representation of choice’ - but standardized and automated. Online selection is really omnipresent liking, sharing, posting, reposting, adding to personal lists, creating collections, filling baskets, commenting, and conversing about items (Franchi & Schianchi, 2011): almost everything consumers act upon is a sign of selection. In turn all these activities constitute source of data on consumer preferences that can be used to further refine information about their interests and drive others’ interests as well. “This operation makes (...) end users feel that they are not just consumers but authors (...) creating a new (...) experience” (Manovich, 2002, p. 52).

It is interesting to question what a personalized social shopping platform adds (or subtracts) to a ‘type’ of consumer-chooser. The principle upon which these SSP are based is to personalize the consumption experience as much as possible. On one hand they let consumers perceive that they are enacting a set of choices – thus articulating their deliberating self. On the other, they shape the context and provide the means by which consumers make decisions. The data extracted by the sustained and constant selection by consumers is used to personalize content. Personalization solves the overabundance of consumption possibilities by computing personally relevant options. In this sense, personalization can be conveyed as the solution to an overcrowded information environment and, at the same time, as the tool helping consumers “in being what they would like to be” (Interview, CEO, Fashion start-up, retailing).

The consumer-chooser though not only enjoys even more freedom online but apparently he/she is aided in becoming a more truthful version of him/herself. As we saw from the literature reviewed (see chapter 2 section 2.1 and chapter 3, section 3.1) online contexts change the perception of socio-cultural norms and correspondingly influence users’ self-perception. In the case of SM, different contributions stress how self-concepts are stretched

beyond common statuses reaching various degrees of ‘true, hoped-for, possible’ selves. In consumption-setting on the other hand, self-concepts are one of the main constructs leveraged by marketers to target consumers. The perception of fewer limitations and constraints are strongly connected with the rise of aspirations, particularly in consumption domains. It is thus reasonable to suppose that in SSP self-concepts will be oriented more toward aspirational selves³⁰. SSP seems to rely heavily on latent groups and latent selves by fostering interest-based aggregation of users and their performance of taste. SSP arouses consumer aspirations: the performance of who they would like to be instead on who they are. The instrumental use of aspirations is a traditional tool in marketing. However, even if already present and well known, the aspirational self seems to be treated differently online. It is not only public and shared but it could easily be drawn upon to reinforce the gap between online activity of selection – adoption of new lifestyle models – and real possibility of being.

The online selection activity and the possibilities of personalization it entails seem to offer new opportunities as well as new threats to the consumer-chooser. “Information technology has enlarged the space of our choices to an extent where it has lost all structure and resistance” (Borgmann, 2000, p. 139). Personalization based on aspirations might open a space of knowledge possibilities about oneself that appears increasingly distant from traditional social settings of consumption.

Socio-cultural contexts and limitations cannot disappear without alternatives. In order to choose, one needs to have some indications or referents. Socio-cultural contexts need to be substituted by something else. It is interesting then to question what are the technological rules that work as the new referents of choice-selection and how they operate. Cultural and symbolic referents operate by contextualizing consumer original choices. Considering that individuals inhabit fashion consumer roles under an implicit contract of appropriate behaviour (see chapter 3, section 3.1.1), this means that one is individuated as a consumer, thus one becomes an individual by observing a code of choosing against which one asserts one’s own originality. A technological indication of appropriateness in selecting-choosing thus might have the power to act as a code. That is, it might function as a new context and referent of choice, substituting (presupposing or representing) socio-cultural codes of consumer appropriateness. Following the view of technology as a regulative regime (Kallinikos, 2010), I believe that if technology objectifies a new representation of choice

³⁰ Ravikant, N. and Rifkin, A., *Why Twitter is Massively Undervalued Compared to Facebook*, TechCrunch, <http://techcrunch.com/2010/10/16/why-twitter-is-massively-undervalued-compared-to-facebook/> (Last accessed 15/05/2012).

through selection, it would also come to regulate choice and therefore change the rooted notion of consumer-chooser.

5.1.3 Experience

Under the label of ‘experience’ are subsumed a set of mechanisms that stand for consumer attribution of value to the act of consumption (experience perception and evaluation) (Court et al., 2009). Although communicative strategies frame consumption experience as a relationship between producer and consumer, we saw how this approach is eminently reductive. Consumption experience is the process by which social values trickle-down to consumer desires and, conversely consumers attribute their own desires to brand or product values. Usually, consumption experience is evaluated by measures set up to assess ‘personal-oriented perception’ and ‘non-personal oriented perception’ (Vigneron & Johnson, 1999, 2004). This means that consumption experience has been managed as the satisfaction of consumer desires by brand-symbolic resources. On one hand marketers manage this space making products or brands visible (Zwick & Cayla, 2011). On the other, consumers internalize the experience of consumption as a reward or satisfaction of their lack, thus the acquisition of the object (and connected status) fulfils their desired self-state. In this sense, consumption triggers different mechanics of possession, appropriation, or identification up to the point in which objects and derived status are perceived as part of the self (Ahuvia, 2005; Belk, 1988). A satisfactory experience of consumption for consumers means the enhancement of their self-concepts. Consumer aspirations and desires as well as their satisfaction have always been ‘internal’ to the self, and only negotiated in social settings.

Today, the online experience is situated at the crossroads of a composite interaction, whereby consumers and producers participate in the constant negotiation of products and brand reputation and success (Divol, Edelman, & Sarrazin, 2012). SM and personalization technology mediate this renegotiation through complex and often hidden mechanics of computational devices and operations. Even though technology negotiates consumption and consumer experience, little has been written on how it might intervene in shaping modalities of evaluation. Data structuring, platform functionalities and algorithms operate by interposing their own regime not only between consumers and marketers, but also between consumers and other consumers, and also consumers and their selves.

As seen, SM platforms based on interest-sharing are leveraging on consumer aspirations and desires. The SM context seems to situate itself in a sort of intermediate stage between reality (intended as the perceived naturalness of social encrusted values and norms) and individual

aspirations. On SM, loosely perceived social constraints bring consumer imaginaries partly to life under specific behavioral templates (Langlois, 2013b). These behavioral templates, articulated in a set of posting, sharing, viewing, voting, or commenting are all disaggregations of narratives articulated in SM participative dynamics where the role of others' opinions can be strongly amplified as an immediate reward. Like-minded people we are following or whom are following us can reinforce consumption patterns and narratives of self (idealization, identification, etc.) with the immediate reward of a 'click'. The possibility of managing 'immediate rewards' attests to a remarkable difference between the traditional internal and self-reflexive process of consumer satisfaction and the SSP real-time experience evaluation.

I propose to frame the possibilities of evaluation that both products and consumers undergo online as mediated by SSP functionalities and their production of new participative forms in online consumption processes. For example, we saw previously how the logic of selection, embodied by platform interaction, impacts on the representation of choice and might change the role of consumer-chooser as identity seeker. Technological representation translates the self-deliberative act of consumption into a set of pre-established selecting activities.

The micro-fractures of the consumption process, its decomposition into bits and pieces on SM behavioural templates mediate consumption evaluation by creating new values and redefining old ones. Technologically empowered evaluation might change social values and categories of meaning in ways that appear to be different from the manner in which personal satisfaction was filtered by rigid cultural 'taxa' (Weinberger, 2008). Meanwhile, consumer evaluation was previously conditioned by the adherence to cultural models, lifestyles, or social values, online this process is unbundled from sociocultural contexts and reframed under technological rules.

The view that digital consumption innovates product evaluation by bringing transparency to an otherwise opaque process dominated by the oligarchy of experts is still diffused. The common refrain is that technology makes every opinion count and its democratization brings about the 'death of experts' and the triumph of grassroots opinion (see chapter 3, section 3.2). As seen, the concept of consumer as co-creator of value is not new. It pertains to a general marketing shift toward the management of consumption experience. Still the technologically processes of attributing values to products and brands by consumers (voting, ranking, and posting) are seen as 'transparent' processes able to create more authentic evaluations and ranking methods. They are viewed as consumer empowerment rather than exploitation (Arvidsson & Malossi, 2011), and even when critically assessed they are not

related to technology's role as media. Undoubtedly technology has opened accessible routes to evaluation that weren't there before. However, looking at the most common technological tools used to analyse users' opinions instructs us on how technology actively participates in constructing processes of evaluation. The constant monitoring of likes, comments, and opinions known as 'sentiment analysis' has become a marketing tool aimed at categorising and analysing which emotions a brand or a new product advocate. As Arvidsson has shown 'sentiment analysis' is not just a tool. By translating opinions, likes, sentiments, and impressions into data language the conditions are created by which a set of internal affective responses can be framed by rules and logic of data technologies (Arvidsson, 2012). Votes, opinions and likes need to be sorted, stored and reordered as any other data produced online. This means that they become represented as data and subjected to technological manipulation.

SM surely opens up new possibilities of product and self-expression and evaluation. It thus appears relevant to question how new technological modalities of expression intervene in shaping the conditions under which meaning is expressed (what has been defined as pragmatics of signification, see chapter 4, section 4.1) and thus self-evaluative processes are triggered. SM mediation constructs evaluation and thus value differently, in so doing it makes possible the attribution of new values to old categories or the construction of new categories. SM technology as a medium doesn't make visible what was hidden before. The mediating properties of SM create new socio-digital contexts and conditions for signification and communication to happen. In turn, social participation and interaction on SM gain a different possibility for expression and action on consumption. This means that consumption was different before because the conditions under which it was acted (and made sense of) were different. Where for conditions I mean: the context (physical and social) but also the language (medium), and possibilities of signification (cognition, action, and interpretation) of the social practice of consumption. Consumption experience is rewritten upon a new way of communicating to one another, with like-minded people and with brands. These properties remain invisible and understudied partly because it is proper of media to fall into the background and to be taken for granted, mediating artificiality (artificial constructed categories) as if they were natural. Representing something in different ways eventually could have an impact on behaviour and real life practice (de Vries, 2010), as Bruce Sterling said, "my consumption patterns are worth so much that they underwrite my acts of consumption" (Sterling, 2005, p. 79).

5.2 Conclusion

This chapter has sought to bridge the gap between SM and consumption literature by proposing a conceptual framework to unpack SM mediation of consumption. The framework combines traditional approaches toward consumption mechanics to SM functionalities as they have emerged from the explorative study conducted during the pilot phase of the empirical research (see chapter 6, section 6.3.1). The framework proposed has sought to compare a conceptual *ex ante* and *ex post* SM consumption experience. The framework aimed at tracing a map to orient the empirical investigation.

‘Search and Discovery, Selection, and Experience’ seem to undergo a technological mediation that suggests reconsidering how consumption might be represented and acted online. Online socio-cultural contexts and norms become undergirded by the presence of a computed sociality and the constant feedback loop personal information initiates. SSP propose an experience of consumption along determined routes. It seems as though technology enlarges and at the same restricts the naturalness of encrusted social norms and individual behaviors, producing something new.

On the pathways opened by the proposed framework, the empirical research will situate functionalities and operations of SSP technology with the aim of unpacking the logic of SSP mediation of consumption.

6 Methodology

Introduction

This chapter describes the strategic design and implementation of the empirical investigation. The research design adopted is theory driven, it is informed by the nature of the phenomenon under study and by the aim of this dissertation. Case study methodology in fact offers the possibility of accounting for context embedded explanation of complex social phenomena such as the logic of SM representation of consumption. Furthermore the aim of this dissertation is toward theory development rather than theory testing. By focusing on what Bauer and Gaskell call the 'LSE approach' this research uses procedures and good practices (Bauer and Gaskell, 2000, p. 1) to advance the empirical investigation with a continuous feedback between theoretical constructs, empirical evidence, and interpretation of findings. Therefore a two-step qualitative methodology has been chosen. It is based on (i) an explorative pilot phase and on (ii) a single explanatory case study and serves the aim of this dissertation: contributing toward the conceptual refinement of SM personalization technology and its implications on social consumption processes and consumer roles.

Epistemological and methodological choices thus respond to the aim of expanding the current understanding of SM's mediating properties. The first section of the chapter connects to the semiotic theoretical approach outline in chapter 4 (section 4.1) ideally completing the ontological positions depicted there. The aim of this section is to clarify what to expect from an empirical investigation of the 'reality' of signs. The epistemological positions illustrated in section 6.1 are based on a critical constructivist approach. This epistemological approach assumes that meaning, albeit socially constructed, is always endorsed, and at the same time constrained, by cultural conventions and social rules. The empirical investigation and methodology chosen aim at uncovering the mechanics of SM signification. As seen, signs and systems of signs are not empirical objects. This means that the object of this research - logic of SM signification - has to emerge from the data gathered by means of 'retroductive reasoning' (explained in section 6.1). To ensure this process, the empirical design establishes a set of methodological procedures and good practices: communicative validation, data triangulation and thick description among the others.

Section 6.2 justifies the adoption of a qualitative research design in light of the research questions. The overall research design has been subdivided into two parts. Section 6.2.1 describes the pilot study conducted as the first part of the empirical research. The pilot phase

has helped the project development both theoretically, contributing to the analytical framework of consumption, and methodologically, leading to the selection of the company chosen as single case study. A single explanatory case study constitutes the second phase of the research design. A social shopping platform on fashion and design goods has been chosen as representative of the contemporary ‘data driven’ method of organizing consumption. The single case study design attests to the need to explain complex social phenomena such as SM consumption, without oversimplifying their own nature and complexity. It is for this reason that such a design has been preferred. The adoption of quality criteria and of corpus construction, a technique of data selection and analysis, strengthened the entire process.

Section 6.5 delves into a detailed explanation of corpus construction, a linguistic technique adapted to social science by Bauer and Aarts (2000). The technique has strong connections with semiotics. It is a data selection procedure that allows the typifying of unknown phenomena under known categories. Starting from external categories it helps delineate the case main themes gradually and with continuous feedback between theory and data. Corpus construction was undertaken by building three sub-corpora (known categories) derived from the analytical framework’s subdivision into ‘search and discovery, selection, and experience’. Based on corpus construction, data analysis has been carried out by implementing three cycles of coding (section 6.5.2). Eventually the themes developed and their interrelations brought about the structural analysis and interpretation of technological signification mechanisms (chapter 8) and the conceptualization of their implications for the social categories of consumption (chapter 9).

6.1 Epistemology: constructivism and semiosis

Epistemology is the branch of philosophy concerned with the nature of knowledge. It clarifies the scientific approach taken to unravel phenomena of enquiry. In so doing, it posits to what extent what is investigated can be known or researched (Crotty, 1998). This research adopts a critical constructivist approach insofar as it acknowledges that individuals and groups actively engage in the construction of knowledge and reality representations. A relevant tradition of studies considers the act of interpretation as bounded to situations, limited to a ‘pragmatic’ of signification³¹. The supremacy of

³¹ I am referring here to the great sociological tradition of symbolic interactionism in social science, but also to different approaches in information systems and media studies that see the interpretive moment as limited to the pragmatic of interaction defined as the very moment in which the interaction occurs. The great variety of the approaches that start from this consideration prevents me to label them in one category. Generally they are defined as social constructivist, interpretivist or pragmatist, however the term pragmatic has been variously interpreted and could not only indicate the entire set of idiosyncratic responses that the addressee elaborates once the message is received. As stated in chapter 4 (section 4.1), this research adopts a definition of pragmatic which

communication (transmission of message) in media studies has generally brought about an ‘interpretive inadequacy’ (Esposito, 2004a). The social-construction of technology, which views technology as an emergent phenomenon arising from social contexts, adopts a similar position. The notion of situatedness in particular, asserts the importance of the situated use of the technological artefact in reshaping its functionalities (Orlikowski, 2000). Even if viewed as important, this approach is not considered here as exhaustive of the interrelation between a system of signification and an individual or community of practice (the ‘personal’ and the ‘social’ as previously defined).

This research starts from the epistemological position that the act of sense-making and interpretation actively begins before the interpreter's involvement (Eco, 1979). Thus, in our case, the system of signification underlying the technological artifact is essential in constraining and directing the pragmatic of signification and every *in situ* interpretation (Kallinikos, 2004). “In this sense the perception and interpretive behavior of the addressee are not necessary for the definition of a significant relationship as such” (Eco, 1979, p. 8). Hence the *situatedness* of interpretation – even if necessary – is non-exhaustive either of the semiotic process (not even of its pragmatic of interpretation) nor of reality in itself (Sayer, 1992). Not every interpretation is possible and not every interpretation can be considered as if it were a fact. This is because interpretation is always allowed and constrained by reality. Eco calls the stable tendencies expressed by real entities against which meaning is constructed ‘lines of resistance’ or the ‘hard core of being’ (Eco, 2000).

Thus, a critical constructivist epistemological approach is in line with the previously declared critical realist ontological stance. Critical realism assumes that the world can be known only through interpretation (Sismondo, 1993, p. 535). As Peirce puts it in the fourth of his ‘four incapacities’: “(iv) we have no conception of the absolutely incognizable” (quoted in Eco, 2000, p. 33). On the other hand however, every interpretation (or categorization) carries traces of reality. “Even though speaking in *generalia* may be an effect of our *penuria nominum*; nonetheless, *something* resistant has driven us to invent general terms (whose extension we can always review and correct)” (Eco, 2000, pp. 51-52). Similarly, Hacking argues that the social construction of meaning does not happen in a vacuum. On the contrary he sustains that ideas inhabit a social setting, and subjects are embedded in a net of pre-existing categories (the *generalia* quoted above), cultural beliefs, and institutions that provide a matrix of possible representations of reality (Hacking, 1999).

is rather different and more in line with Peirce’s semiotic and Eco’s successive theory of semiotic. Pragmatic is intended here as encompassing: “all the semantic choices offered by the message or the entire set of presuppositions entailed by the message. Logic and Semiotic usually deal with the last two meanings of pragmatic, and in this sense a pragmatic of signification could be theorized as separated from the moment of interpretation” (Eco, 1979).

In turn, “institutions, epistemologies and knowledge claims are all human products and thus are all generally accepted to be heavily influenced by social forces” (Sismondo, 1993, p. 526). The recognition that phenomena can be socially constructed thus does not interfere with the notion that there is a ‘reality out there’, which becomes meaningful only insofar as it is socially constructed, but which, at the same time, limits and allows its social constructions by being *real*. “To say that meaningful reality is socially constructed is not to say that it is not real”, in this sense Crotty continues: “constructionism in epistemology is perfectly compatible with a realism in ontology” (Crotty, 1998, p. 63).

Critical realism distinguishes between transitive and intransitive knowledge. Science, being a human activity is essentially a product of the social sphere, and is thus transitive. Whereas the object of knowledge - what knowledge is about - pertains to the intransitive sphere and it is independent from human production and interpretation. All in all, meaning is certainly constructed, but the systems of signification that underlie its production are intransitive. Written language, consumption language, and technological systems, if approached as systems of significations, fall into the intransitive domains and consequentially they can be approached as *real* even if an enquiry on signification systems and languages would be still bounded to their interpretation.

Critical realism introduces a distinction between the real, the actual, and the empirical. The real is made of enduring structures and mechanisms that show tendencies and power able to generate causal effects. Social structures, and also systems of signification, shape actions, cognition and interpretation. “Social forms are a necessary condition for any intentional act, (and) that their pre-existence establishes their autonomy as possible objects of scientific investigation” (Archer, 1998, p. 197). Social forms or structures, even if unobservable, by interacting with each other, generate actual events. In turn, actual events might be experienced and thus become the empirical event observable in research.

This means that the object of this research - SM as a signification system - cannot be observed because, as seen, a sign is not an empirical entity. Critical realism presupposes the observability of empirical events, meanwhile the actual and the real domains can only be accessed through retroductive reasoning. “Retroductive reasoning starts from empirical observations of an event, it then proceeds by analytically reconstructing mechanisms that would explain the event” (Aaltonen & Tempini, 2014, p. 3).

This project studies signs as autonomous and *real* entities, and their relations in systems of signs as the structural conditions for possibilities of meaning to emerge. In other words, our enquiry on the technological mediation of consumption observes events (gathered data) and, by reconstructing their own interactions within a structure, theorizes on their own

‘hypothetical mechanisms’ (Sayer, 1992). These mechanisms are the capacities of the system of producing ‘events’ under determined presuppositions (Mingers, 2004). SM, as a signification system, produces personalized information as ‘events’ in relation to the ‘presupposed’ social convention of consumption process. Events are the results of specific information infrastructure mechanisms and system functionalities – the logic of the system – that constitutes the object of the present research. On these hypothetical mechanisms or logic, produced from the structural interactions of the signification systems (the ‘technical’ and the ‘social’), the analysis and discussion will be performed.

6.1.1 Research questions

Very often studies and reports on SM and SSP do not go beyond a shift in practices (chapter 2 and 3). Consumer co-creation, prosumption, customization or mass customization, and in general all the different thematic linked with consumer participation seem more oriented to describing a mutated practice. This research is rather interested in explaining what are the technological mechanisms able to trigger a change in consumption practice and how they operate.

Consumption is a complex relational process and it has been predominantly socially constructed by language and interpretation in socio-cultural contexts. As the literature reviewed in chapter 3 has shown, communication and signification of products and brands participate in shaping individual and social identities. The media has always had a relevant place in influencing and diffusing behavioural and cultural models. SM though, is still viewed more as virtual place where interaction occurs, rather than a technologically structured media able to condition signification and interaction in consumption domains. Since an increasing part of consumption experience is lived through SM’s computational operations and personalized suggestions, the main question of this research emerged as ‘How the computational logic of SM represents consumption and presupposes consumer versions’ (chapter 1). In chapter 4 I conceptually framed the logic of SM mediation as the technological functionalities and operations carried out by the SM’s information infrastructures that translate online social consumption under data and computational regimes. SM’s information infrastructures show a “lack of neutrality” in the logic of sorting, storing, and framing data (Kramer, 2006, p. 94) that should be investigated and explained and thus reconnected with possible implications on ways of representing consumption and consumer roles. During the pilot phase of the research, data aggregation emerged as relevant in conditioning the infrastructural design of social

shopping platforms³². Therefore a sub-question has been formulated as: ‘How does data aggregation disassemble consumption?’ As seen in the preceding chapter, SM seems to reduce consumer’s ‘performance of taste’ in specific ways along programmed behavioural routes. The analytical framework of consumption (chapter 5), elaborated on the basis of the main themes emerged from the pilot phase, has served to open the online process of consumption to the analysis. On the basis of the conceptual framework unpacking of consumption, this research intends to understand how does the logic of SM’s system represent consumption along the three moments of ‘search and discovery, selection, and experience’.

6.2 Research Design

The different strands of literature upon which this research project is based, and the nature of the socio-cultural phenomena of interest, require a research design able to develop exploration and explanation, and thus theory development rather than theory testing.

For these reasons, a qualitative approach has been chosen as the most appropriate research design. A qualitative research strategy responds to the need to gradually develop knowledge on social phenomena that are often complex, unknown, or irreducible to a predetermined sampling rationale. In qualitative research, procedures and methods stand as quality criteria to ensure confidence and relevance of findings. Quality criteria are good practices such as triangulation of data, communicative validation, and thick description, which work in qualitative research design as functionally equivalents of internal and external validity (Atkinson, Bauer, & Gaskell, 2000; Flick, 2009; Marton, 2013)

In order to fulfill the quality criteria of qualitative design and follow the principle of a gradual unfolding of the case and object of analysis, the research strategy by which this project is informed relies on different sources of data elicitation and analysis. The work is structured in two major phases that, based on different typologies of data, will delineate the boundaries of the case as it emerges from empirical evidence.

The first phase is an explorative account of social media fashion, a pilot study that has been used to delimit the area of interest and to ground the conceptual development to the observed data. It responds to the need to explore the context of SM consumption. It further aids in refining the research questions and delimiting a set of conceptual routes able to lead to theoretical refinement and case selection. The product of this phase has been the analytical framework exposed in chapter 5. The pilot phase has also led to the selection of the case study. The second part of the research design is an in-depth case study of an SSP.

³² The major themes emerged from the pilot phase of the research are summarized in the Appendix 11.1.

It has been designed so as to unravel the logic of SM mediation and to explain the mechanisms able to cause a difference in online consumption and its signification capabilities. A single explanatory case study, representative of social media technologies, and in particular of data aggregation and personalization mechanisms, has emerged as the best option to meet the expectations of the research project.

RESEARCH DESIGN	EXPLORATORY PILOT STUDY: FASHION SOCIAL MEDIA	SINGLE EXPLANATORY CASE STUDY: A SOCIAL SHOPPING PLATFORM
RESEARCH PHASES	Pilot study	Single explanatory case study of an SSP on fashion and design goods
TIMING	November 2011 – July 2012	November 2012 – December 2013 (13 months)
SAMPLE SELECTION	Fashion digital marketing and SM professionals – snowball sampling	Purposive sampling (unit of analysis), Corpus Construction (data selection, unity of coding)
DATA ELICITATION	Non-structured interviews, collection of public documents from online sources (magazines, blogs)	Direct observation, document collection (company’s documents and public documents about the company), semi-structured interviews, field notes, drawings
DATA ANALYSIS	Thematic coding	Corpus construction, thematic coding
REPORTS	Analytical framework of consumption	First intermediate narrative Second definitive narrative (Chapter 7)
QUALITY CRITERIA	Communicative validation check with interviewees: July-November 2012 data triangulation	Communicative validation of the two narratives (June 2013 and January 2014) thick description (see Chapter 7) data triangulation (see section 6.5)

Table 2: Research Design

6.3 Pilot study

A pilot phase might be useful to the overall research design project for different reasons. Effectively, the pilot phase undertaken contributed in several ways to the present research. Data was gathered through 15 non-structured interviews (Flick, 2000) to professionals in fashion digital and social media marketing sampled by purposive selection. In particular, subjects were chosen for their special expertise, constituting a sample of key informants. In addition they recommended other subjects to interview (Alasuutari, Bickman, Brannan, & Brannen, 2008; Atkinson et al., 2000). Thus a snowball sampling technique was used to enlarge the group of the informants and it eventually led to the company selected for the second phase of the research - the single case study. The interviewees were aware of the purposes of the meetings. They knew that “the researcher was at an early stage of [her]

project and would not have a fixed agenda” (Yin, 2009, p. 93). Adjunctively, public documents such as online newspapers and blogs on fashion marketing and communication have been collected (Alasuutari et al., 2008). Interviews and documents have been thematically coded (Flick, 2009) with the aim of tracing the most relevant challenges and opportunities that social media communication posits to online consumption. Moreover, documents have been used to triangulate themes and categories that emerged from interview coding. Following Yin, the pilot phase has been conducted prior to the final articulation of the study’s theoretical proposition (chapters 4 and 5). The scope was to reach an insight into the basic issues being studied that I believe was missing from the literature reviewed. The pilot was both a conceptual and methodological agenda for the in-depth single case to be conducted and led to the research's theoretical development. It has further attested to the need for conducting a single explanatory case study sustained by solid theoretical scaffolding. In so doing, the pilot phase has been both exploratory and formative (Yin, 2009).

- (i) Exploratory because it has clarified and delimited the main issues brought about by SM innovation concerning communication and consumption of fashion. Starting with an open agenda and unstructured interviews, the pilot focus moved gradually from a general enquiry on fashion's digital communication and consumption, to the specific awareness that communication and consumption were changed by the increasing importance of data and information over traditional marketing and communication strategies. The interviewees shared common views on the relevance of the ‘data driven re-organization’ of communication and marketing practices, for which they felt unprepared. The first major theme of ‘information abundance’ (see Appendix 11.1) refers to this common awareness. It was this theme which contributed to shifting the focus of the enquiry from ‘fashion communication’ to ‘fashion-tech’ companies and, ultimately, to the ‘data driven re-organization’ of shopping. Thereafter the pilot phase agenda focused more on researching the specific SM companies fashion professionals felt were disruptive of traditional fashion communication and consumption methods, and the main technologies responsible for the disruption. Emerging as recurrent across the interviews ‘data aggregation’ has been incorporated within the main research design as one of the research sub-questions. The theme of data driven disruption, data aggregation and personalization mechanics,

have been further corroborated by the final communicative validation with which the pilot phase has been concluded.

- (ii) Contextually, the pilot case has been formative in providing the information missing to shape the conceptual framework on consumption used to confront the consumption process before and after the innovation brought about by SM. Effectively, the information elicited and themes developed from the data analysis have primed the final research design so as to shape a framework based both on theories of SM mediation and a “fresh set of empirical observations” (Yin, 2009). The literature review on SM on one hand, and digital fashion on the other, were not only almost completely unrelated but were both still focused on the rhetoric of ‘consumer empowerment’. Yet the information acquired from the pilot was unambiguously clear on the fact that the main innovation brought about by SM was, for the informants, the possibility of changing communication strategies on the basis of data analytic and data mining techniques with the purpose of manipulating consumer behaviour and consequently shaping consumption. The informants' belief that SM and its data production would favor the manipulation of consumers stands in sharp contradiction to the literature focused on ‘consumer empowerment’. Thus the themes emerged from the data elicited, contributed to the development of relevant lines of reasoning that brought to the design of the analytical framework of consumption and, at the same time, strengthened the need to find a case study able to explain SM technological signification.

Three major themes emerged: ‘(i) information abundance, (ii) a radical change in the discovery and selection of fashion information, and (iii) the reconfiguration of consumption experience’ (see Appendix 11.1). The first theme refers to what I have illustrated above, it was the main direction followed to explore the sector of ‘fashion-tech’ companies and their activities, until it eventually led to the specific technologies to be investigated, and to the selection of the single case study. The second and third themes instead provided the ground to validate the first theoretical insights on empirical data. The literature reviewed and the themes emerged from the pilot contributed equally to the elaboration of the analytical framework of consumption presented in chapter 5. As Yin summarizes: “The dual sources of information help to ensure that the actual study reflected significant theoretical issues as well as questions relevant to contemporary cases” (Yin, 2009, p. 94).

PILOT PHASE	LITERATURE REVIEW	DATA ELICITATION	DATA ANALYSIS	MAJOR THEME EMERGED	CONSUMPTION ANALYTICAL FRAMEWORK 'Search & Discovery, Selection, Experience'
					DATA AGGREGATION & PERSONALIZATION MECHANICS
					COMPANY'S SELECTION

Table 3: Pilot study broken into phases.

All in all, the pilot phase made a considerable contribution to the development of theory and case study emergence, providing clarification of the overall research design.

6.4 Social Shopping Platform: a single case study

The strategic principle of the second phase of the empirical research design is a single explanatory case study (Yin, 2009). The phenomenon under study is the technological signification of social media for shopping: how SM technology mediates consumption's 'search and discovery, selection and experience'. The distinctive need for a case study arises in order to understand complex social phenomena that cannot be easily disentangled from their own context. In this case it allows the investigation of SM's production logic of personal information, by retaining the complexity of consumption signification and representation, and the holistic character of a socio-cultural life event. As section 6.2 illustrates, this project is interested in understanding the mechanics behind the production of personalization: *how* it happens, and *how* it conditions consumption signification. The explanatory character of the project, corroborated by the research question's formulation, has led to the single case study choice. One of the case study's strengths is the possibility to rely on a large variety of sources of evidence to unfold explanation of contemporary events in their own context. The case study allows "continuous interaction between the theoretical issues being studied and the data being collected" (Yin, 2009, p. 69).

The company investigated is a fashion-tech start-up, a data driven company that has been chosen because it is representative of a typical case. "The case study may represent a typical project, a firm believed to be typical of other firms, a representative example. The lessons learned from these cases are assumed to be informative about the experiences of the average person or institution" (Yin, 2009, p. 49). The rationale behind the choice of company was its typicality in being a 'data driven organization', further reinforced by the fact that the platform it implements is based on SM functionalities, and aims at innovating traditional consumption practices. The company's platform is a social curation – social

shopping platform (SSP) that aggregates data on products, brands, users, and retailers producing a personalized experience of shopping. The principles of the platform are: “to overcome fragmentation of fashion online and to allow users to freely express their taste” (Company’s Document #1). A detailed description of how the Company and its platform operate will be given in chapter 7. Commonly defined as social curation platforms, social shopping platforms are emerging as personalized content recommendations in partial response to the lack of “*meaningful* context and commentary”³³ of automated search engines. Thus the case perfectly fit the main interest of our enquiry of how technology produces an online meaningful consumption process.

As previously stated, the access to the research site has been aided by the pilot study conducted. In particular, the connections established during the interviews with industry professionals have granted the researcher a set of contacts with a new generation of tech entrepreneurs. The first contact with the company was established in November 2012 during a business convention on innovative fashion and technology enterprises. On that occasion the founders of the company were publicly pitching to obtain further funds. I established a first informal contact during the same day and after a week I had the first meeting in the company’s headquarter. During the first meeting we negotiated the terms and timing of the case study. The negotiation lasted a month and ended with a formal agreement (NDA)³⁴.

6.4.1 Studying a tech start-up

The ways in which the company is organized and organizes its operations have some implications on the case design and analysis. In what follows I shall briefly consider some of the advantages and disadvantages of performing a single case study on a ‘tech start-up’. The company’s organization and business model is not the object of this research project, and even if described for general purposes at length in the case narrative (see in particular sections 7.3 and 7.5) it will not be part of the analysis. As the case study unravelled, the company’s business operations and business model remained in the background as the context of the main object of analysis. The fact that the organization is a start-up gives a specific connotation and configuration to the case: to its timing and development, and its overall design. Presently, specific technologies are more often than not developed in a

³³ Kansara (2011), *Fashion 2.0, Social Curation Start-ups target fashion industry*, “BOF – The Business of Fashion”, (Last accessed 28/03/12).

³⁴ The NDA has been written following the guidelines of the Research policy and ethics division, at the London School of Economics and Political Science. See: <http://www.lse.ac.uk/intranet/researchAndDevelopment/researchPolicy/ethicsGuidanceAndForms.aspx> (Last Accessed 1/06/14). The NDA was written and signed by the two Company co-founders, by the PhD supervisor, professor Jannis Kallinikos, and by the researcher.

multi-player game where groups of start-ups concurrently advance similar technological innovation with little, albeit sometimes decisive, variations. The same venture capitalists often fund several players with similar visions, spreading the risk of their investments. These start-ups, made by young entrepreneurs, advance the ‘family of technologies’ and nurture innovation by competing with each other. Therefore the confidentiality of some of the information disclosed was regarded as necessary in order to guarantee the competitiveness of the start-up. The Non-Disclosure Agreement (NDA) in this sense is the contractual negotiation of specific restrictions among which the non-disclosure of the company’s name (from now on simply the Company) and the non-disclosure of the Company’s commercial agreement with its affiliate partner were prominent.

At the same time, case studies on start-ups, even if they challenge some of the core aspects of analyzing organizations (for instance the lack of roles, the lack of organizational structure, and the lack of formal routines) have considerable advantages in the analysis of the technology adopted and developed. The most important consideration has to be made on the way start-ups develop their information systems. These organizations do not have any formal relations in terms of job-roles for example (Avgerou & Cornford, 1993). Section 7.2 of the case narrative describes this ‘pre-organizational status’. Starting from the main characters behind the enterprise, it adds a rich description of what the Company’s philosophy and goals are. On the other hand, it is this very characteristic, the relative absence of roles and structures, which makes tech start-ups so interesting to study. The focus on technology development makes the analysis of their innovation capability more transparent. Start-ups miss the interplay between innovative and on-going activities of medium and large firms, which often obscure motives and technological disruptions (Bhidé, 2008). A data driven organization in its start-up phase is almost completely focused on product development. It has clear goals and objectives and the freedom to develop its product without market constraints. Conducting a case study on a tech start-up has meant following the ‘product development’ (in our case the social shopping platform and the system behind it) directly, that is without the limitations usually imposed by organization’s hierarchical structures. The Company's short-term plan was clearly focused on product completion and market placement. Market opportunities, competitors, and even long-term organizational visions were somehow put aside, at least for the time of this investigation. It is important to remark that the Company’s portrait given is biased not only by the interests of the present research, but also by the very nature of a start-up investigation.

The possibility of investigation offered by the start-up almost completely matched with this research interest. This study contributes to the explanation of SM mediation of consumption from a start-up product development perspective. The empirical study gives an account of the initial phase of a data driven enterprise, which is set to innovate fashion communication and retailing by developing an alternative method of consuming based entirely on the data the Company’s platform produces and the data it gathers from SM. Will the Company’s data-driven model of consumption be successful? The question falls beyond the scope of this research. The fact that the product has yet to be properly tested on the market does not undermine its innovative value. In this sense, the importance of the Company’s success is relative. Almost certainly, this very model or a similar one will be developed and brought to the market with high possibility of success.

6.4.2 Data collection and internal validity

Data collection has been conducted by relying mostly on semi-structured interviews and on the field notes produced during the Company’s meetings. Additionally, data has been collected by gathering the Company’s documents and external documents or publicly available documents on the Company. Among the latter are included the screenshots and data gathered from the constant observation and monitoring of the Company’s SM profiles (Facebook, Twitter, Tumblr, Pinterest).

CASE STUDY	INTERVIEWS	DIRECT OBSERVATION	DOCUMENTS (of the Company)	DOCUMENTS (on the Company)
SOURCES OF EVIDENCE	NON-STRUCTURED INTERVIEWS TRANSCRIPTIONS	FIELD NOTES PHOTOS MAIL EXCHANGE CHAT HISTORY	PHOTOS FROM DRAWINGS (DATABASE DEVELOPMENT) SCREENSHOTS PRESS PACK FOR RETAILERS REPORTS FOR INVESTORS PRESS PACK FOR USERS PRESENTATIONS AND PITCHES (FOR INVESTORS, START-UP COMPETITIONS)	TECH START-UPS BLOGS TECH START-UPS GROUPS NEWSPAPERS ARTICLES INTERVIEWS/ VIDEO INTERVIEWS GENERAL SOCIAL MEDIA SCREENSHOTS FACEBOOK, TWITTER, TUMBLR, PINTEREST)
NUMBER	21	23	72	136
CASE STUDY’S DATABASE CODE	ID#	RN#	PPT#	PD#

Table 4: Case Study’s different sources of evidence.

Data has been processed by undertaking a preliminary round of coding (Boyatzis, 1998) followed by the corpus construction technique (Bauer & Aarts, 2000). The corpora obtained by the data parsing have allowed the second and third rounds of coding,

performed on the basis of corpus criteria, to be used not only to select but also to construct relevant themes to guide the interpretation and analysis (Boyatzis, 1998; Flick, 2009). I expose the process in detail in section 6.5 and successive sections.

In this section I will briefly expose the procedures undertaken during data collection to ensure quality criteria and the internal consistency of the case. Properly collected and coded data are one of the criteria picked out by Lee and Baskerville (2003) to ensure generalizability for case study research. Likewise, Lincoln and Guba (1985) remark the relevance of four basic criteria to ensure qualitative research reliability. They are (i) credibility, (ii) transferability, (iii) dependability, and (iv) confirmability (Marton, 2013).

(i) Credibility is ensured by providing adequate documentation for data collection and analysis. Credibility is the functional equivalent of internal validity, to ensure it I wrote a case protocol before starting the fieldwork and used a case database to keep track of collected data and its connections with the case protocol and theoretical scaffolding. The use of a case protocol is essential to build a logical mode of proof that fosters internal validation (Yin, 2009). Both procedures thus serve to reinforce the internal validity of the case and, particularly when the objective is oriented toward theory development, they allow one to reach an adequate analytical generalization (Yin, 2009). Table 5 below illustrates the headlines of the case database used and its principal functions (Yin, 2009). The table illustrates how the case database is used to maintain a chain of evidence between data, hypotheses, data sources, and to the overall research objective. In this case, it has also strengthened the connection between the different phases of data elicitation and the corpora construction.

DOCUMENT TYPOLOGY	CODE	DESCRIPTION	DATE	FONT	DATA ELICITATION	OBJECTIVE	TYPE OF TECHNOLOGY	RELATION TO CORPORA	FILES
-------------------	------	-------------	------	------	------------------	-----------	--------------------	---------------------	-------

Table 5: Case Study's database headline.

(ii) Transferability refers to the concept of external validity. In this case it is pursued by using data gathered extensively to reach a 'thick description' (see chapter 7).

(iii) Dependability is equivalent to reliability. It has been proactively pursued with a double communicative crosscheck with the informants at the end of the first and second narrative. Dependability is further corroborated by the use of different sources of evidence (data triangulation among different sources). To provide internal reliability, the analysis has been performed using documents to corroborate and augment evidence from other sources.

(iv) Confirmability refers to the checks of preliminary findings and communicative validation.

6.5 Corpus Construction

Corpus construction is a technique of data selection derived from linguistics. The word 'corpus' means 'body' in Latin, and it refers to a self-contained collection of texts on any subject. In linguistics, these collections tend to be complete and thematically unified. Barthes defines a corpus as: “a finite collection of materials, which is determined in advance by the analyst, with a degree of arbitrariness, and on which he is going to work” (Barthes, 1967, p. 96). Bauer and Aarts have adapted the corpus construction technique to qualitative data collection for social sciences, theorizing a tool that attempts at an exhaustive typifying of social phenomena based on a constructed body of finite empirical material. Although corpus construction and representative sampling are functionally equivalent, they remain structurally different (Marton, 2013). Corpus construction “maintains the efficiency of selecting some material to characterize the whole” (Bauer & Aarts, 2000, p. 20). Where statistical random sampling represents the distribution of known variables, contrary in corpus construction selection derives from the very nature of the social phenomena being studied. Actions and situations do not have a knowable population, and conversations and human interactions are open systems made of elements that have infinite combinatorial possibilities.

Similar to language, social phenomena with their complexity escape the possibility of being fixed in a *priori* known population to which a ‘representative sampling technique’ can be applied. Thus, corpus construction deals with the complexity of the phenomena being studied without imposing a preconditioned sampling rationale. It instead constructs collections of materials around a topic, accounting for internal variation and relevancy. In short, while older meanings of ‘text corpus’ imply the complete collection of texts according to a common theme, corpus construction is based around more recent meanings of corpus, which stress the purposive nature of selection.

Being an alternative principle for data collection, corpus construction not only aids data selection, relevancy and variation, it also frames and conditions the analysis. As Bauer and Aarts remark: “selection seems less important than analysis, but is not to be separated from it” (Bauer & Aarts, 2000, p. 23). Corpus construction techniques applied to the social science qualitative methodology stand for the purposive nature of selection, not only of text but also of any other material with symbolic functions. It was Barthes who extended the notion of corpus from texts to any material as signifier of social life. Drawing from his ‘Elements of Semiology’, Bauer and Aarts make corpus construction techniques pertinent to any open system with an unknowable population in principle, aiming at typifying unknown attributes or representations (Bauer & Aarts, 2000). In contrast to theoretical sampling, corpus construction relies on a two-dimensional reconstruction of a chosen social space under the

unraveling of (i) the variety of an unknown phenomenon based on (ii) known categories (for an application of the concept, see Abdelnour & Saeed, 2014). In order to overcome the paradox of being representative of something not known *a priori*, corpus design has been defined as a cyclical process (Bauer & Aarts, 2000), and a system that grows. Corpus design is regarded by Biber as a cyclical process, as one cannot determine *a priori* what a representative corpus can be. Representativeness, Biber continues, is not derived from the correlation between sample and population, but aims at accounting for the internal variation of the phenomenon under scrutiny (Biber, 1993). Corpus construction is performed following a stepwise procedure: (i) to select preliminarily, (ii) to analyze the internal variety, and (iii) to extend the corpus in order to reach saturation, that is the picking point where no additional variety can be detected. Of particular relevance for this case is the concept of continuous feedback from observations, to data interpretation, to theory implementation and back. Thus corpus construction serves the main aim of the present project by providing a methodological tool able to foster theory development. At the same time, its semiotic heritage strengthens the consistency between theoretical approach, methodology, and research contribution.

The notion of corpus, its selection-analysis constitutive link, and its semiotic origin, are in line (i) with the concepts and theoretical background of this research (chapter 4), and (ii) with the research questions and the epistemic approach that guide the present study (section 6.1). Following Barthes (Barthes, 1967) and Bauer and Aart (Bauer & Aarts, 2000) I have built three sub-corpora, maintaining the conceptual framework division of ‘search and discovery, selection and experience’ and proceeded to different cycles of data selection up to the point of sub-corpora saturation. Sub-corpus is defined simply as a subset of a corpus: “either a static component of a complex corpus or a dynamic selection from a corpus” (Atkins, Clear, & Ostler, 1992, p.1). If on one hand the division into three sub-corpora observes the rules and criteria of corpus construction (detailed in the following section), on the other it is the tool that performs the structural analysis of how different technological functionalities intervene in reshaping ‘search and discovery, selection, and experience’. Corpus construction works by individuating and selecting the relevant elements that articulate signification within and across the different sub-corpora (the known categories of consumption). By selecting relevant elements of a given category in fact, corpus construction reproduces the variety of the phenomena under study under a determined structure that in so doing becomes observable. Technological production of meaning, as we saw in chapter 4, demands a reassessment of the manner in which personally meaningful signification is constructed and the manner in which it relates to traditional categories of consumption. Indeed, one should look for the mechanisms underlying signification production and how they reconstruct, or presuppose extant consumption categories.

It is worthwhile remarking that corpus construction is the methodological tool that bridges the description of the system functioning (empirical data) with the categories of consumption (theory and framework). The different sub-corpora developed under the known categories of consumption structured the relevancy of data on the system functioning (unknown events) by implementing variety and reducing redundancy of themes, until the themes performed the explanation of the category (sub-corpora). In practice, I built the corpora by collecting data describing all the elements of the system functioning: rules, standards, functionalities, and operations. Thus I applied rules and criteria of corpus construction to implement the selection of relevant materials. The results have been three 'self-sufficient corpora'; three self-explanatory complete body of material upon which I performed the analysis. On this account, corpus construction made possible to isolate relevant mechanics of technological signification and to explain possible consumption categorical changes. Another relevant issue to consider is that corpus construction works by gradually indicating the analytical path to follow. It would be very naïve to attribute corpus construction to just selecting capability. As seen in chapter 4, data selection and classification bear a particular vision of the world. Similarly the three sub-corpora, acting as classificatory devices, favored the analysis in determined ways. As with every system of classification, what corpus contributes is to establish a set of values within a definite body of work. Corpus construction redistributes a set of elements within a system under rules of relevance - maximizing variation (difference) and consequently moderating repetition. In this case it has been the tool aiding the analytical reconstruction of the technology signification structure from the data gathered, exposing its functioning under the chosen categories of consumption.

To conclude, corpus construction has favored a coherent design that is consistent with the theoretical approach and overall purpose of the research. Below is a detailed description of the rules and criteria adopted to build the sub-corpora.

6.5.1 Rules and Criteria

A procedure to overcome the paradox of corpus construction (being representative of something not known a priori) consists of unfolding the social space in two dimensions. One dimension includes the social strata, functions and categories that are commonly known (such as sex, age, and so on). In this case they are the three-macro consumption categories of 'search and discovery, selection and experience'. The external categories are usually adopted to segment the population, as they remain external to the actual phenomena under scrutiny. The other dimension comprises concepts (such as opinions, attitudes, feelings, stereotypes, identities, and ideologies), which are the representations that researchers usually want to typify. In this case the object of the analysis is constituted of the technological mediation and

signification, its logic and operations. Thus a corpus construction always begins with a selection of a document under external criteria, for example particular categories (in our case categories of consumption) but aims at investigating the underlying representations mechanics or systems of beliefs. As Atkins notes for linguistic corpora:

“[the] initial selection of texts for inclusion in a corpus will inevitably be based on external evidence primarily. A corpus selected entirely on internal criteria would yield no information about the relation between language and its context of situation. A corpus selected entirely on external criteria would be liable to miss significant variation among texts since its categories are not motivated by textual (but by contextual) factors” (Atkins et al., 1992, p. 8).

In our case, even if the three categories have been ‘over-selected’ as ‘sub-corpora’ they didn’t limit the internal development of the corpora. By maintaining the three consumption categories as ‘external’, corpora have effectively developed the internal variety of ‘consumption technological language’ providing the interplay between functions (internal) and categories (external). In order to consistently guide corpus construction in “maximising the variety of the unknown phenomenon”, Bauer and Aarts formulated four rules (Bauer & Aarts, 2000, p. 33):

“(i) Proceed stepwise: select; analyse; select again, (ii) In qualitative research, strata and function variety precedes variety of representation, (iii) Characterizing variety of representations has priority over anchoring them in existing categories of people, (iv) Maximize the variety of representations by extending the range of strata/functions considered”.

PHASE	OBJECTIVE	RULE
DATA GATHERING		
FIRST ROUND OF CODING: OPEN CODING	PARSING DATA, DEVELOPING DESCRIPTIVE CODES, CODE ATTRIBUTION	1. SELECT, ANALYSE, SELECT AGAIN
CORPORA CONSTRUCTION	DEVELOPING SUB-CORPORA	SUCCESSIVE APPROXIMATIONS
SECOND ROUND OF CODING	CATEGORIES – DEVELOPING FUNCTIONS VARIANCE (CLUSTER AND SPLIT)	2. IN QUALITATIVE RESEARCH, STRATA AND FUNCTIONS VARIETY PRECEDES VARIETY OF REPRESENTATION
CORPORA GROWTH	CATEGORIES GROW INTO THEMES, ATTRIBUTION/RELEVANCE (ADD AND DELETE)	3. CHARACTERIZING VARIETY OF REPRESENTATIONS HAS PRIORITY OVER ANCHORING THEM IN EXISTING CATEGORIES OF PEOPLE
DATA GATHERING	MISSING LINKS/VARIANCE, DATA IMPLEMENTATION, THEMES REFINEMENT,	4. MAXIMIZE THE VARIETY OF REPRESENTATIONS BY EXTENDING THE RANGE OF STRATA/FUNCTIONS CONSIDERED
THIRD ROUND OF CODING THEMATIC CODING	THEMES ANALYSIS – EXPLANATION WITHIN AND ACROSS SUB-CORPORA	SUB-CORPORA STRUCTURAL ANALYSIS (THEMES AND THEIR RELATIONS)
SATURATION	FURTHER DATA/THEMES WOULD NOT ADD MUCH MORE	LAW OF DIMINISHING RETURNS

Table 6: Corpus construction roadmap.

Table 6 illustrates the process of corpus construction undertaken, together with rules and objectives. I have proceeded as follows (see Table 6): First I have started gathering data from different sources, as reported in section 6.4.2. For each data source (interviews, field notes) I

have performed what, in linguistic corpora, is called 'parsing'. That is a first round of coding as open coding, or labelling, with which I attempted to maximise varieties of themes. At this point I started the sub-corpora construction by 'successive approximation' (Atkins et al., 1992): splitting themes that were unrelated to the corpus or merging other themes that were similar. The purpose since this first passage was to develop a 'balanced corpus' for each of the categories. A balanced corpus "offers a manageably small scale model of the linguistic material which the corpus builders wish to study" (Atkins et al., 1992). Atkins continues: "Experience teaches us that it is better to aim to record initially *an essential set of attributes and values* which may later be expanded if resources permit" (Atkins et al., 1992, p. 8).

(2) Next, I started the second round of coding following the second rule, that is, looking to develop variety of categories (the unknown 'technological' variables of consumption categories) from the categories previously individuated.

(3) The purpose of corpus construction is to make theoretically relevant materials emerge from the internal consistency of the corpora. It is at this point that the 'missing links', the unbalances in the various sub-corpora, demanded further data gathering and implementation. Thus I have proceeded to the implementation of corpora, gathering additional material, reviewing categories, modifying hypotheses, and developing themes.

(4) This point, as Atkins remarks, is when "the strength and weaknesses of the corpus are identified and reported" (Atkins et al., 1992, p. 5). When the data and theme developed are not sufficient to explain the phenomenon under study, the researcher should enhance the corpus by adding or deleting material, or expand the data pool at the basis of corpus construction. The processes of data collection, coding, and analysis are conducted continuously and inextricably bounded to each other. They are performed repeatedly until the corpora reach saturation, requiring further conceptual development, new data sources, or different processing.

The nature of corpus construction requires different cycles of data implementation. The conceptual framework, the data gathered, and theme relevance have to be adjusted accordingly under the criteria used to build the corpora. I have gradually isolated the relevance and consistency of themes as they have emerged from the three subsets of corpora. Though corpus construction requires a robust theoretical scaffolding prior the empirical work, cyclical corpus improvement leads to a conceptual refinement that is grounded to data. It constructs the internal validity of the case, conferring coherence to theory, concepts and categories observed. Ultimately:

"the corpus must be wide enough to give reasonable hope that its elements will saturate a complete system of resemblances and differences; it is certain that when one goes through a collection of data, after a time one eventually come across facts and relations which have already been noticed (...) these

‘returns’ are more and more frequent, until one no longer discovers any new material: the corpus is then saturated” (Barthes, 1967, p. 97).

It is what Bauer and Aarts call the ‘law of diminishing returns’. It occurs when adding further strata/functions, which “make only a small difference with regard to additional representations” (Bauer & Aarts, 2000, p. 34).

Additionally I have applied the criteria of (i) *relevance*, (ii) *homogeneity* and (iii) *synchronicity* as defined by Barthes (to which Bauer and Aarts refer, see Bauer & Aarts, 2000), building sub-corpora through different typologies of data (notes from observation, interviews, and documents). Barthes defines (i) *relevance* as the criterion by which “[i]t is decided to describe the facts which have been gathered from one point of view only, and consequently to keep, from the heterogeneous mass of these facts, only the features associated with this point of view, to the exclusion of any others (these features are said to be relevant)” (Barthes, 1967, p. 95). This does not mean excluding other factors but treating them only under the chosen lens. In my case every fact, material, or event emerging from the corpora has been treated in semiotic terms. Every theme has been considered only insofar as it contributed to explain changes in the representation of the sub-corpus (category of consumption) to which it has been assigned. Even the less relevant themes have been treated in semiotic terms. That is they have been considered as less relevant only with respect to signification purposes, functioning as ‘contextual information’ (what in semiotic terms are considered as the differences within a structure). Corpus construction structurally determines values (relevance) by positioning facts (functions and strata). It is the analytical structure that the researcher uses to explain (or describe or prove) a determined phenomenon. In so doing “the principle of relevance is a consequence [of a] situation of immanence: one observes a given system from the inside” (Barthes, 1967, p. 96). Since the object (that is the system’s logic of representation) is not known, but is reconstructed out of the functioning of corpus construction, the immanence of the structure, as Barthes explains, is manifested at the beginning of the opus as a heterogeneous set of facts that needs to be processed exactly to know their own structure. By assuming only a point of view, any material different from the point of view adopted, becomes the ‘difference’ against which a coherent story can be constructed. The principle of relevance, emerging from the interplay of themes’ similarities and differences, sustains the possibility of individuating important themes. In our case, the logic of the SSP platform becomes explainable through the emergence of relevant themes (technological functionalities) able to explain changes against the traditional consumption categories (their own sub-corpora).

The corpus, as Barthes explains, must be as (ii) *homogeneous* as possible: “to begin with,

homogeneous in substance”, that is, it should comprise only one and the same type of document. He continues:

“reality however, most commonly presents mixed substances; for instance, garments and written language in fashion; image, music and speech in films, etc; it will therefore be necessary to accept heterogeneous corpora, but to see to it, in that case, that one makes a careful study of the systematic articulation of the substances concerned (and chiefly, that one pays due attention to separating the real from the language which takes over, that is, that one gives to their very heterogeneity a structural interpretation” (Barthes, 1967, pp. 97-98).

At the beginning of corpus construction I decided to build different corpora for each of the different data sources used (for instance interviews and documents), however during the second round of coding I realized that was too costly in terms of time resources. Thus I relied only on interviews and used the material gathered from other sources as data for triangulation (Yin, 2009) to verify the explanation emerging from the corpora.

Finally (iii) *synchronicity* is commonly referred to as time homogeneity. But what would that mean for a system of technological signification? I have implemented the corpora for almost a year following the development of the case. For the purpose of the research and its questions, time was almost secondary, given that even if the system will be implemented and partially changed, its signification, the object of the present study, will remain more or less similarly structured. As Barthes says, referring to the principle of homogeneity:

“[t]hese choices are purely operative and inevitably arbitrary: it is impossible to guess the speed at which systems will alter, since the essential aim of semiological research (that is, what will be found last of all) may be precisely to discover the systems’ own particular time, the history of forms” (Barthes, 1967, p. 98).

6.5.2 Thematic coding

As remarked in the previous section, I have undertaken three rounds of coding following the principle of corpus construction implementation, variety development, and saturation.

(i) The first cycle of coding was almost entirely aimed at developing a suitable unity of coding, intended as “the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998, p. 63). Following Atkins (1992) and Bauer and Aarts (2000) I thus decided to parse the data, as traditionally happens with linguistic corpus construction, and attribute a ‘label’ to every micro-unit. “To be of most utility, the label should be (a) conceptually meaningful to the phenomenon being studied, (b) clear and concise, communicating the essence of the theme in the fewest words possible, and (c) close to the data” (Boyatzis, 1998, p. 31). This first round of coding was not aimed at interpreting data, it was rather devoted to grounding the corpus construction to the data content by developing a unit of coding able to maximize the

variety of themes (Flick, 2009). Traditionally, open coding is used to develop categories and select codes to develop thematic domains (Strauss & Corbin, 1998), instead I used it only as descriptive device, later developing categories and themes on the basis of corpus construction's principles. As shown in table 7 each document (in this case interview) was parsed in unity of coding, to each unit of coding was attributed a label and a label flag, and the pre-determined theoretical categories (the three sub-corpora) functioned as 'selective devices' for the variety and relevance of units of coding so constructed.

ID #	FLAG	PG	LABEL	SEARCH & DISCOVERY	SELECTION	EXPERIENCE
1	M/FS	1	MODELS/FOURSQUARE		X	
1	FB/S/U	2	FACEBOOK DATA/USERS PROFILING	X		X
1	P	2-3	PRODUCT FEED/CATEGORIZATION/AGGREGATION	X	X	

Table 7: Extract of the cross-tabulation obtained from the first round of coding and sub-corpora attribution.

(ii) The second round of coding was used to develop variance and relevancy. Out of 21 interviews I developed 264 units. Once they were attributed to each of the sub-corpora another cycle of coding was undertaken to enhance labels' consistency and the code's internal reliability within and across each corpus (Boyatzis, 1998, pp. 99-109). From simple labels occurring as events within the sample, this stage brought about a coding refinement. Events, that is labels, were clustered or split, for example the label 'Models/Foursquare' (table 7, first row) became 'Personalization Models' meanwhile 'Foursquare' was coded as a theme internal to the 'Personalization Models' together with 'Amazon, Netflix, etc.' (see chapter 7, section 7.6). As Boyatzis suggests, clustering themes may be important for the presentation of the analysis (Boyatzis, 1998, pp. 136-143). The result of the second round of coding was a characterization of the relevance of clusters which emerged out of 'similarities and differences' in units of analysis. The second round of coding thus, by clustering events in categories, has functioned as intermediate passage between 'labels' and 'themes'.

(iii) The third round of coding was conducted as analysis on the categories developed. Relevant categories were expanded into themes, checked against the data content and against the sub-corpus external category. Meanwhile the first round of coding was descriptive and the second aimed at internal variance, in the third round I looked for internal and external variance that is, the explanatory power of the themes emerging with respect to their category. This in turn brought to the refinement of major themes able to explain the system's logic and its implications for the categories of consumption (and thus to further data gathering, codes refining, and conceptual development). On the other hand, the themes that were not essential to the explanation of the three sub-corpora (categories of consumption) but were nonetheless relevant for the explanation of the case, constituted the

‘difference’ as Barthes illustrated in his principle of relevance, and were included as major themes in the Case Narrative (see chapter 7). At this point it was clear that the size of sub-corpora and the variety of functions considered – themes established and their relevancy - was incurring the law of diminishing returns (Bauer & Aarts, 2000). The recurrence of dominant patterns, keywords, and themes saturated the corpora. That is, they constituted a self-sufficient explanation of how determined system’s functionalities represented ‘search and discovery, selection and experience’ on the social shopping platform. What emerged from the corpus internal structure and from the interrelation between corpora was the internal and external relevance of themes able to explain the logic of the system functioning. With the aid of corpus’s structuralist principle I proceeded to reconstruct conceptually the ‘hypothetical mechanisms’ able to explain the empirical events gathered in the first place. On the one hand, the external relevance of themes was so clearly depicted across corpora that it deserved a thorough explanation (see chapter 8). It was the system’s logic that unobservable in actual state it was made observable by the ‘immanent’ interaction of its elements (themes cutting across search and discovery, selection and experience). On the other, the internal relevance of the main themes which emerged by the unfolding of the two dimensional social space of corpus construction (known categories and unknown variables) constituted the basis for the explanation of how the system logic represent each of the category that is presented in chapter 9.

6.6 Conclusion

This chapter has sought to provide a description of the research's epistemological foundations, research object, and methodology used. The empirical investigation is theory driven insofar not only relies on strong theoretical scaffolding but also aims at expanding theories on the field of SM mediation of social life. The chapter discussed what to expect from a research project interested in the ‘reality’ of signs. Relying on a critical constructivist approach it considered the difference between socially constructed meaning and system of signification as the real, underlying structures of meaning production.

The choice of adopting a qualitative research approach is justified by the fact that the object of the research - ‘SM technological signification’ - lacked consistent theoretical basis. Qualitative research is based on a cyclical process between analysis, selection, and theoretical development. The complexity of the phenomenon under study brought to consider the necessity of dividing the research strategy into two phases: an explorative pilot phase and an explanatory single case study. The pilot provided both conceptual and formative contributions to the overall research strategy. Themes emerged from the pilot contributed to the analytical framework of consumption and to the refinement of the research

questions. Furthermore, the contacts developed during the pilot phase led to the company chosen as an explanatory case study.

The Company, a start-up implementing a SM for shopping, is a 'data driven organization' aimed at innovating traditional ways of shopping through the adoption of SM's functionalities and social data computation. The nature of case study and corpus construction, the tool chosen as the selective and analytical device, conferred an overall coherence to theoretical implant, object of analysis, epistemology and methodology. They allow a continuous feedback between theory, empirical data, and emerging themes. As Barthes says, corpus construction makes 'structure' immanent by ways of grouping unknown elements under a known category. The interplay of similarity and difference created the 'relevance' that has been used to agglomerate units of coding into categories and eventually into major themes able to explain the phenomenon under study. Corpus construction in short has allowed the exercise of 'retroductive reasoning'. Starting from empirical data it provided a structural tool to make the interrelation of empirical data visible, allowing the analysis on the 'hypothetical mechanisms' - the logic of the signification system that produces personal information as meaningful events.

7 Case Study Narrative

Introduction

This chapter describes the Company investigated. Its main purpose is to build a flowing narrative of the organization, describing its aims, concepts and visions. The narrative constitutes the background against which the major themes of interest will be analyzed in subsequent chapters (chapters 8 and 9).

The necessity of separating a descriptive account of the Company from the research analysis comes from the awareness of the subjective interpretation of the researcher in the investigation process. Disentangling facts from their analytical interpretation strengthens the empirical investigation. Although it does not make the process less subjective, it confers an overall transparency to the empirical work, aiding the case study's internal validity. Thus the narrative exposed here follows the quality criteria specified in chapter 6 (section 6.4.2). For example, the description of the Company relies more heavily on quotations from data to reach a 'thick description'. The narrative aims at guiding the reader into the gradual unfolding of key themes from the systematic organization of the empirical observations. It thus respects the criteria that have informed the single in-depth case study choice: analyzing complex phenomena in their own context.

The chapter is made of two parts. The first part gives a portrait the Company as 'data driven organization'. It includes its business model, its innovative vision, and commercial development (sections 7.1-7.3 and Section 7.5). Even if relevant to understanding the Company's philosophy, these themes need to be considered as the context of the analysis. The second part of the chapter entails a description of the object of the present research. Section 7.4 discusses the Company's information infrastructure design and development. The infrastructure functioning here described at length will furnish the basis for analyzing it as a technological system of signification of consumption in subsequent chapters. Sections 7.4 and 7.5 thus will be used throughout the analysis as empirical reference to ground the findings and main discussion themes.

7.1 Social Shopping Platforms: an introduction.

The Internet and the diffusion of Social Media have changed the way we shop. Social shopping platforms (SSP) build on data and functionalities of SM, and aim at advancing the personalization of online services in consumption domains. SSP aim at establishing social criteria of relevance for consumption goods, by grounding the reorganization of dispersed

product data into social data produced by the user interaction they design. The founders of the Company consider the platform to be the “Internet’s department store” (Company’s document, #13). Effectively the changes these platforms are bringing to consumption seem somehow similar to the advent of the modern department store. They aggregate and reorder information about products under one roof. However, in contrast to what normal malls would do, these platforms let users collaborate in selecting product content to be displayed. Furthermore it is by letting users curate their own selection of products, that these data-driven organizations acquire the possibility to collect social data produced by user interaction. By crunching social data, SSP are thus able to orient users toward relevant products; or to come back to the department stores metaphor, they build a personal shopping mall on the fly for each and every user.

The case studied is a typical social shopping platform dedicated to fashion and design goods. The platform mainly aggregates information on fashion design products, also including interior design complements, books on designs and craft objects. The platform has been founded by a data driven organization, which means that the Company is not concerned with production or retailing of products, it instead aims at innovating retailing by focusing on data and data operations. The shopping platform thus is a social media for shopping. It personalizes consumption by harvesting social participation (Company’s document, #11), for this reason it has been built with “*social curation* and *gamification*”³⁵ at its core” (Company’s document, #5). The main activity with which it empowers users is ‘tagging’. By ‘tagging’, users add (or save) products (as images of products) to their own platform profile from all over the web with a bookmarklet system. Bookmarklets are JavaScript programs stored as bookmarks³⁶. They embed one-click functionalities, which link the image of the product on the platform to the source page of the product (usually commercial websites). Bookmarklets also embed data extraction functionalities, which allow the platform database to store data about products. Thus, when users ‘tag’, the platform’s system acquires data (and metadata) on products that are stored on its database and displayed on the platform. The platform home page displays the result of its user base

³⁵ Deterding et al. suggest that: “*gamified* applications provide insight into novel, gameful phenomena complementary to playful phenomena”. They propose a definition of *gamification* as the use of game design elements in non-game contexts (Deterding, Dixon, Khaled, & Nacke, 2011).

³⁶ “Bookmarklets are unobtrusive scripts stored as the URL of a bookmark in a web browser or as hyperlink on a web page. The term is a portmanteau of the terms *bookmark* and *applet*, however, an applet is not to be confused with a bookmarklet (...). Bookmarklet utilities are stored as bookmarks or hyperlinks, they are designed to add one-click functionalities to a browser or web page. When clicked, a bookmarklet performs some function, one of a wide variety such as a search query or data extraction. Bookmarklets are usually JavaScript programs”. See: <http://en.wikipedia.org/wiki/Bookmarklet> (last accessed on 17/12/13)

tagging, a continuous stream of product images (product feeds³⁷) which represents the visual flow of the ‘tagging’ activity of its users.



Figure 1: Screenshot of a row of the products feeds on the platform homepage. Each product image is complemented with the description: ‘Tagged by [users name] at [store name]’.

The platform offers the login option via Facebook or Twitter to users. When users join, the platform immediately suggests products to ‘tag’ (add or save) from the selections of other users, from stores already present on the platform, or from external Internet sources. Furthermore, by extracting socio-demographic information on users from their SM profile (name, gender, age, location, occupation), the platform is able to personalize suggestions on other users or stores to ‘follow’ since the login phase. By ‘tagging’ and ‘following’, users gradually build their platform profile: a page constituted by the products ‘tagged’, lists, other users or stores ‘followed’, and other users by whom they are ‘followed’ (see figure 2).



³⁷ “Product data feed is a file made up of a list of products and attributes of those products organized so that each product can be displayed, advertised or compared in a unique way. A product feed typically contains a product image, title, product identifier, marketing copy, and product attributes. Product feeds supply the content that is presented on many kinds of e-commerce websites such as search engines, price comparison websites, affiliate networks, and other similar aggregators of e-commerce information”. See http://en.wikipedia.org/wiki/Product_feed (last accessed on 17/12/13).

Figure 2: Screenshot of the profiles' headline and first row of products.

It is because 'tagging' is the main user activity that the Company has been defined as "a social wish list" (Document on the Company, #4). Users save products they would like to buy into their profile, assembling wish lists of products by browsing other user selections. 'Tagging' thus executes a double function. By 'tagging' from external sources users ingest product data in the platform's system. However by performing 'tagging', users also demonstrate their 'intentions to buy' (their wishes). As we will see in detail, it is by crunching data derived from the activities performed by users, among which 'tagging' is the most relevant, that the Company is able to offer a personalized and "intelligent way of shopping" (Company's document, #16).

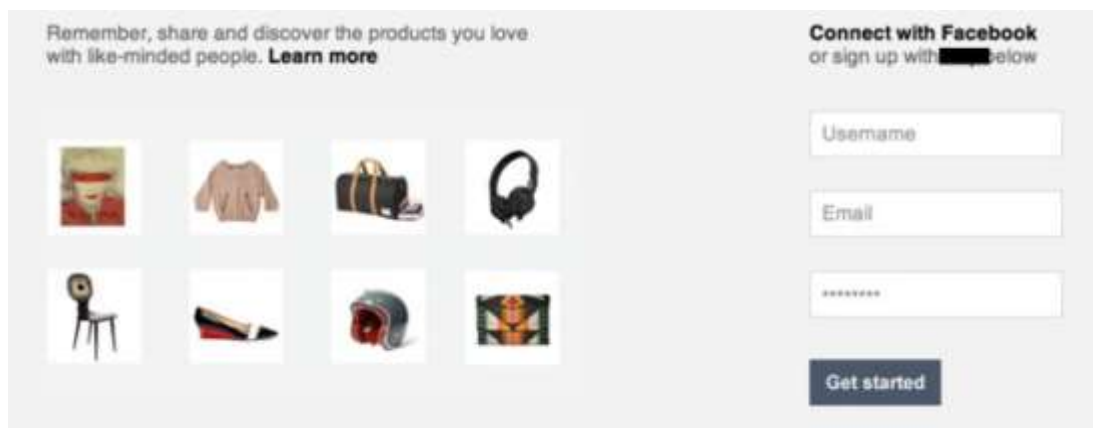


Figure 3: Screenshot of the log-in phase via Facebook.

The social interaction performed on the platform is the principal source of product data. By letting users 'tag' products from all over the web, the platform positions itself as an aggregator of design goods. The Company believes that by aggregating product information, it answers to a relevant consumer need. The Company adopts the view that the proliferation of e-commerce websites is making it almost impossible for consumers to search for the right product (cf. Interviews, Company's founders, #2, 3, 7, 12). The over-fragmentation and dispersion of commercial '.com' (as the founders call traditional commercial websites) websites are seen as detrimental to consumption activities. The adopted approach to personalization is seen as providing a viable solution to this problem. The Company personalizes consumption by structuring and computing: (i) social data gathered from social media, (ii) dispersed product information from commercial '.com' websites, and (iii) social data as they become available from the platform interaction. On the one hand, user activities programmed on the platform give the Company the possibility and space to leverage social data-driven re-assembly of product information. On the other hand, social data, as produced

by the platform's social interaction, constitutes the unique selling point of the Company. It is the very presence and volume of user interaction and engagement that creates social data and possibilities of extracting valuable information on consumption. The extraction of value from social data thus allows the Company to personalize consumption for users and at the same time to personalize consumers for retailers. Personalization in fact is a two-way route linking consumers to products and thus to retailers. Consumers are suggested relevant products to buy, and retailers are suggested relevant consumers to sell to. Similar to a brick-and-mortar marketplace, or as previously suggested, to a department store, the Company's long-term vision is to create and sell space and services to retailers, leveraging on social data and engagement.

In this sense the platform approach is much more similar to an SM model than to a traditional commercial '.com' approach. The Company produces and collects behavioral data by letting users perform a set of activities, among which 'tagging' and 'following' are taken as the principal indications of purchase intent data. It is the interaction programmed by the platform, thus, which produces data on potential consumers. Interaction is sustained by the engaging idea of curation. By 'tagging' products and saving them into their own profile, users curate their own selection of products. In so doing, they are able to showcase their taste, fueling social interaction, competition, or simple communicative exchange.

The bookmarklet system allows users to save the products that “*represent them* wherever the product might come from” (Interview, Company's founder b, #7, Emphasis Added). The platform's homepage assembles the 'tagged' product information stream. An infinite flow of *socially collected* product information that is unbundled from commercial inventories, stocks or seasonal collections. The activities programmed on the platform are rooted in social participation, and as a consequence, the information about the products it displays and aggregates are the result of social interaction. Because of this the platform is a social shopping space. Curation in this sense is the core of what the Company defines as “the social side of shopping” (Interview, Company's founder a, #2). It is what pushes engagement and therefore the production of data. As one founder says: “it needs to be there to motivate interaction”, he explains:

“the fact that you have a profile with the things you saved, persons you follow, *it feels a little bit like yours* maybe, and it works very well for people who actually do care about the fact that they could be seen as an influential person” (Interview, Company's founder b #6, Emphasis Added).

Those influential persons or 'core users' - the minority of users who produce the majority of content - need to be engaged and motivated. The Company has in place a system of

competitions, offers and rewards (commonly known as social gamification), which responds to the need of maintaining constant activity of top influencers.

“In today’s social media savvy world, [the platform] is an exciting way to find, select and be rewarded for shopping in a new, simple and social way. Through tagging and sharing our items you get rewarded. What’s not to like about that?” (Interview to a retailer, Company’s document #5).

So organized and performed, the main goal of the Company is to create the technological conditions for a new consumption experience. Different to what has been done so far, even within the web, the Company intends to base its own vision of consumption entirely on social data. “Data instead of content” (Interview, Company’s founder b #4) is the clear proposition used by the Company to emphasize its main consumption innovation. Aiming toward a more efficient and enjoyable method of shopping - instead of editorials or expert selection - the shopping suggestions elaborated by the platform will be entirely based on the social data aggregated, produced and computed by the Company.

Table 8 : Company’s key numbers
(Last update January 2014)

Number and growth (General)

- 60K Registered Users (+191% from last year)
- 1.3m products saved (+168% from last year)
- 34,000 stores (+70% from last year)
- 605 stores claimed (+88% from last year). Including Acne Studios, NET-A-PORTER, Farfetch, My Wardrobe, Nasty Gal, Free People, Oki-Ni, LN-CC, Luisa Via Roma, Harvey Nichols, Matches (etc.)

Engagement

- Average time spent on site for visitors 2 minutes
- Average time spent on site for registered users 8 minutes
- Average time spent on site (+25% from last year)
- Revenue (+104% from last year)
- Outbound clicks to retailers (+41% from last year)
- Average revenue per click £1.5 (+20% from last year)

Audience

- 52% of our users are male, 48% are female
- 47% are between 25-34 years old and 29% between 18-25 years old
- Users are from over 160 countries. The top 5 is UK (16%), US (14%), France (12%), Netherlands (8%), Germany (6%)

Time line with the two rounds of funding and amount

- March 2012: Seed funding (6 figures round)
- April 2013: Series A funding (7 figures round)

7.2 Background of the founders

Currently the Company employs eight people³⁸. Being a startup, the Company's main vision and concept are still based almost completely on the background and ideas of the two co-founders. Both have working experiences in digital marketing and a common knowledge of

³⁸ They are two co-founders (indicated as a and b in the interview’s captions), one engineer, one marketer and four interns.

recommendation mechanics. The first co-founder is an engineer who has worked in digital marketing, designing recommendation systems and assisted discovery applications for different clients. The second co-founder has worked for one of the major search engines in the media and content industry.

The duo has been always fascinated by Amazon's system of recommendation and its 'recommended for you' service. What grabbed the attention of the founders was the innovative aspect of the service that sought to combine algorithmic techniques and social data "if you think about Amazon and how they recommend things based on the pure algorithms they always had a social element, pity they didn't develop it. I have always used Amazon as a teenager to discover things actually" (Interview, Company's founder a #1). The common passion for music brought to their attention Spotify, which was at that time a newly founded music platform. They saw its capacity for re-organizing the whole content in a given domain as its major innovation: "having all the songs in the world and still being able to organize them and build some sort of personalized way of discovery with that" (Interview, Company's founder a #12). Spotify has since then been one of the models the Company looked at. Together with Amazon and Netflix, it constitutes a constant inspiration. The common interest of the duo was to explore these systems' potentialities in the field of discovery (Researcher field notes #4). As one co-founder explains, 'cutting the noise' was the main concern of the future business development: "the challenge of surfacing what it is interesting, almost regardless of the industry" (Interview, Company's founder a #12).

Thus what motivated the enterprise was the willingness to innovate a given domain by inventing a more effective way to discover products. They believed that a more efficient and effective personalized discovery service could be achieved by working on social data. The decision of setting up a social shopping startup focused on design products came because the duo recognized a potential space for innovation in "solving a problem that people do have" (Interview, Company's founder a #3). The problem they recognized was the over-abundance and dispersion of product information, a problem that had the potential to be transformed into a business opportunity. Thus the duo founded a platform aimed at changing digital commerce. The platform, as a "shop all in one place" destination (Company's document #13), is the envisioned solution to the dispersion of product information. Meanwhile the personalization system of assisted discovery based on social data is the envisaged solution to the over-abundance of product information.

The first step the Company made was the creation of a mobile application which integrated location and barcode scanning technology. In its first mobile design the platform allowed

users to scan product barcodes (thus save products), and follow other people on the go. The main page of the application was an aggregated feed of the collected data on user scanning activity, which constituted the discovery flow the duo was aiming at. The previous work experiences of the duo were decisive in establishing the direction along which they sought to provide a viable business solution. They realized that, in the mist of information abundance, people needed something to enable them to find, save, and share what they liked.

“So that’s how we started, you would scan something to get more information, we did not really think that people would like to do it, we thought they would want more information about product, a rational need. We thought by using that rational need we could reach the discovery need, which we thought was tapping more into people curiosity of looking at what others were saving. We implemented the bookmarklet system” (Interview, Company’s founder a #12).

The discovery need, defined in the vignette quoted above as a “less rational need” animated by people’s curiosity, was the starting point for the development of the twin web application and the beginning of the social side of the platform. The two created a prototype with which they won one of the most important European web enterprise innovation competitions.

“We won that with a finished product, that allowed us to get 50k. In December 2010 we released a private beta version, which was this mobile app and the web version. Everything went quite fast, mainly because of the competition, so we released that and then we realized that for one engineer was hard to manage both the web and mobile part, a bit too much, and we felt a bit like, maybe we should spend a little bit of time on one thing, and do it better” (Interview, Company’s founder b #20).

The barcode scanning mobile application was recognized as a mistake, also because one of the main product classes targeted by the founders - fashion – does not have a unified commercial code:

“And that was a major problem for us because we thought that obviously discovery and sharing things would be felt as much stronger for fashion (...) because it’s emotional, *much more defining who you are*. So if there is any kind of product or category that people probably would spend more time to talk about share and those kind of things, that is fashion” (Interview, Company’s founder b #20, Emphasis Added).

With a third member joining the team of founders, the trio decided to focus on the web application: a “shopping all in one place” destination, with a core of personalized assisted discovery and the possibility of earning rewards.

“We released the app in private beta in 2010 and in 2011 we did two things really. One was just looking at what was going on, trying to understand how people were using it, what did they like, what they did not like, what were the technical problems. I would say we did that for the first half of the year, and obviously there were some minimal improvement to do but nothing major. And the second half of the year we basically took that and managed it and made decisions. So we killed the mobile app, and redesigned slash improved the website, and we released the first public version in November 2011” (Interview, Company’s founder a #15).

7.3 Innovative Visions: ‘The future of retailing’

The Company defines itself as “the web marketplace”. The founders share the belief that the data-driven reorganization of consumption information will have an impact not only on the communication of products, but on the organization of retailing as well. The Company's founders are well aware of the potential innovativeness of their enterprise: “for me it is a very obvious thing, it's inevitable. I think there is a need for the consolidation of retailers, I think retailing how it is known is completely done, especially for online retailing” (Interview, Company's founder a #3). The Company foresees the development of its services as ‘consolidation’ of retailers. By functioning as an aggregator of products (the “shopping all in one place” destination) and by personalizing offers to users, the Company aims at positioning itself as an intermediary platform which will gain an advantage by structuring a ‘two-sided market’³⁹. On the one hand, users will benefit from the personalization offered. On the other, retailers will profit from the consumers' behavioral analytics sold to them. The Company will grow by developing both sides, gaining a stronger position and also reaching a more stable and consistent revenue model.

“We are already doing that, we provide analytics packages to retailers. We are selling to them reports on ‘this is what has been popular, this has been tagged and taken on wish lists, colors and all of these sort of stuff, as well as people who are influential people’. There is a lot we can go on there, we can go into individual stores but we can go also entirely network wide which is exciting and potentially good sale” (Interview, Company's founder a #5).

Currently, the Company's main stream of revenue is provided by affiliate marketing - when users click on a product image on the platform, they are redirected to a merchant website. If users decide to buy, the Company gains a percentage on the purchase. In the medium-run the Company is planning to match its personalization system with a service of ‘promoted placement’. The concept is simple because, as previously stated, personalization is a two-way route. Thus personalized shopping suggestions not only recommend the right store to the right consumer, they also propose the right consumer to the right store. In other words the Company intends to use the insight gained on consumer taste to elaborate marketing strategies that can be sold to retailers. The founders call it an “advertisement model that is useful to people” (Interview, Company's founder b #18). Promoted placement is thus the marketing operationalization of personalization. Retailers and products advertisements will be displayed only to the right consumers. Similar to the Google advertisement placement model, products and stores suggested will be displayed on the platform along with personalized ads.

³⁹ Two sided-markets are economic platforms with two different user groups that provide each other with benefits (See Hagiu & Wright, 2011).

Thus, the Company establishes its marketing services and creates the premises for a distinct advertising model by leveraging the increasing volume and variety of users' behavioral data and their computability. It is useful to come back to Google for a moment. In contrast to the search engine model, it is by crunching social data and computing personalized routes to shopping that the Company acquires the possibility of offering assisted discovery to users and retailers as well. As they say:

“It’s becoming increasingly difficult for retailers to be discovered online, with a dominant few buying up the relevant product keywords on search engines. [The platform] is a great solution for retailers who want to have an additional distribution platform to Google. We match relevant user to stores based on demographic, social connections and interest” (Company’s document #17)

The majority of retailers, particularly SMEs, do not have the resources or the expertise to come up with an effective online marketing strategy. The Company aims at becoming the new ‘Internet marketplace’ because it offers retailers the possibility to be discovered by the right consumers and, at the same time, the space and resources to curate their online presence.

“In a way if you were massive then you would become, honestly not a substitute to retailers but you can really control what they do (...) It’s like a supermarket (...) There is a really interesting trend coming in to the e-commerce space which is creating like shortcuts. I guess this is the way in which the whole retail worlds is definitely going to change” (Interview, Company’s founder b #11).

The Company sees the presence and volume of user data (social data) as its unique selling point. It is what attracts the presence of retailers and brands and, consequently what grants the Company its analytic power. Only by counting on a huge volume of social data can the Company elaborate analytics to operationalize its ‘promoted placement’. In the vignette reported above the interviewee mentions a coming trend in the commerce space, which will create ‘shortcuts’. A ‘shortcut’ is to be intended in relation to personalization, it is quite literally a faster and more efficient route to link consumers and retailers through social data computation. In addition, it is what procures the data needed for the Company’s marketing personalized offer. In fact personalization analytics will be used to offer tailored spaces for each retailer based on social data computation. Today, retailers ‘appear’ on the platform as a result of user ‘tagging’. This means that a retailer page is automatically generated on the platform when users ‘tag’ a retailer's product. ‘Tags’ embed links to the source page of the product tagged, thus the ‘tagging’ activities automatically create pages for stores on the platform. Similar to Foursquare⁴⁰, where shop pages are automatically generated with a user ‘check-in’, the social shopping platform creates stores as a result of user ‘tags’. Once a store

⁴⁰ “Foursquare is a location-based social networking website for smartphones. Users ‘check in’ at venues using a mobile website, text messaging or a device-specific application by selecting from a list of venues the application locates nearby. Location is based on GPS hardware in the mobile device or network location provided by the application, and the map is based on data from the OpenStreetMap project. Each check-in awards the user points and sometimes ‘badges’”. See <http://en.wikipedia.org/wiki/Foursquare>. (Last Accessed 23/10/13)

profile or page is generated, the storeowner can claim it, and the Company can up-sell. This automatic mechanism has already produced around 40,000 store pages on the platform.

The long-term vision of the platform is to work effectively as a marketplace, selling advertising space to retailers. By using its volume of social data the platform's goal is to create an online experience that cannot be easily matched by singular retailer websites.

“I will be able to jump to your store. *So stores will be like apps*, instead of having to remember a different ‘.com’ for every single store, which is a very frightened experience, I can launch the store from everywhere. So for example the store will be say Burberry. Once I am there I can filter through Burberry just as the way I can filter through Burberry.com but again my experience of Burberry on [the platform] is personalized because of the data we collect. So at this point the platform can say: ‘Those are the Burberry’s products you have chosen’ or ‘those are the Burberry’s items your friend have chosen’ or even ‘Those are the black items from Burberry’. All of this because the platform knows what are the things you are looking at. We know if you look at black stuff, or just at jeans from Burberry, and so on and so forth” (Interview, Company’s founder a #3, Emphasis Added).

Ultimately the platform wants: “to become a place where we connect consumers to products in very intelligent ways, to have very smart intent data and algorithms that can personalize based on that, and have ‘right for products’ that are un-matched at least by individual retailers” (Interview, Company’s founders #3/4).

7.4 Social Shopping Technology: database, tokens and measures

This section presents a description of the infrastructure designed and developed by the Company. Starting from the assumptions behind the core choices, the narrative includes an account of how data is gathered and how it is structured. The sub-sections are named after the principal objects of the database. ‘Product objects’ and ‘User Profiles’ are described in detail, reporting the principal mechanisms of their metadata collection. The core of the Company’s information system is represented by the activity implemented on the platform, described in the section ‘Action: tagging searching, clicking and buying’. A final sub-section delves into the evolution of the Company’s personalized system of shopping. This section narrates the functioning of what will be analyzed in subsequent chapters as the technological system of consumption signification.

As remarked by its founders, the Company’s information system was initially based on a set of assumptions on user behavioral responses to the platform design. “When you start from scratch you don’t have statistically significant results to base your decisions on, when the sample is quite low you have to start with assumptions” (Interview, Company’s founder a #5). Some of these assumptions have led to mistakes that have been corrected also on the basis of user feedback. An example of mistakes is the ‘automatic matching’ described in section 6.4.2 ‘Profiling people’. Furthermore, section 6.5 - ‘From recommendation to

personalization’ - illustrates the evolution of the Company’s concept of personalization. The Company has incorporated user feedbacks into the design and implementation of both its system and platform. The platform has undergone a few large changes during the last year, among which personalization mechanics figures as the most important. Now the Company continuously improves the platform performance, by conducting A/B testing⁴¹, monitoring consumer behavior indicators, such as time spent on different platform contexts⁴² and improving error threshold in the search results.

Being a ‘data driven organization’ the Company believes that it is only through data computation that a more efficient system of shopping can be realized. The Company’s information system has thus been implemented by collecting significant volumes of data. Specifically the system is based around three principal sets of data: (a) product data, (b) social data from SM, and (c) social data produced by the platform’s social interaction. Product data (a) and social data (c) are constantly ingested⁴³ through ‘tagging’. Having users ‘tag’ products from all over the web provides the system with an impressive volume of (a) incomplete product data and (c) unstructured social data that needs to be structured and normalized⁴⁴. Data structuration is a complex conceptual activity, which means to: “structure the whole data set and the connections between all those nodes to create more value” (Interview, Company’s founder a #5). The creation of value out of data structuration is obtained by working along three principal dimensions.

- i) The Company works to find ways to constantly ingest data into the system, and even more so, to ingest data about data into the system (metadata). In the case of product data, the system needs to qualify and complete the data it is gathering through ‘tagging’. Bookmarklets, as we saw previously, embed information on products, but they are often incomplete. Thus product data needs to be qualified in terms of

⁴¹ “A/B testing is a methodology in advertising of using randomized experiments with two variants, A and B, which are the control and treatment in the controlled experiment. Such experiments are commonly used in web development and marketing. (...) In online settings, such as web design (especially user experience design), the goal is to identify changes to web pages that increase or maximize an outcome of interest (e.g., click-through rate for a banner advertisement). As the name implies, two versions (A and B) are compared, which are identical except for one variation that might impact a user’s behavior. For instance, on an e-commerce website the purchase funnel is typically a good candidate for A/B testing, as even marginal improvements in drop-off rates can represent a significant gain in sales”. See http://en.wikipedia.org/wiki/A/B_testing (Last Accessed 23/10/13)

⁴² The term *context* used by the interviewees across the fieldwork has been maintained here to signify the different sections of the platform, such as Product Feeds, Profile, Stores, etc.

⁴³ The term *ingestion* belongs to the interviewees vocabulary as well, is the term used more often in describing how the system is continuously implemented by collecting data.

⁴⁴ “Database normalization is the process of organizing the fields and tables of a relational database to minimize redundancy. Normalization usually involves dividing large tables into smaller (and less redundant) tables and defining relationships between them. The objective is to isolate data so that additions, deletions, and modifications of a field can be made in just one table and then propagated through the rest of the database using the defined relationships”. See http://en.wikipedia.org/wiki/Database_normalization (Last Accessed 8/4/14)

metadata enhancement. Product metadata comprehends product features such as price, color, size, and category. The same holds true for social data (b, c). The system needs to qualify users exactly as it does with products. In this sense, as we will see, SM is a precious ally. It is by relying on social media data (b) that the system qualifies users: “to make it as simple as possible we are trying to leverage on Facebook which is giving us things like gender, age, location, friends, so their social graph, broader interests, etc.” (Interview, Company’s engineer #8).

- ii) There is another sub-set of data that responds to the data qualification needs of the system. However, this subset has a slightly different function. It qualifies the connections between the data produced by the user interaction on the platform. It is a whole set of actions among which the most relevant are ‘tagging’ (or saving) a product, and ‘following’ another user or a store. “And we rather have just few things that you can do on the site in term of actions but really high volume. Because the problem when you start from scratch is to reach that tipping point of viable statistic” (Interview, Company’s founder a #5). Being produced by the platform as user interaction, this kind of social data (c) is highly relevant not only for the system's structure but also for the platform's activities.
- iii) The system database structure is also dependent on its performance capability. In terms of the database functioning, for example, the Company needs to monitor how fast a query can be called, that is, how fast and effectively data can be retrieved. This activity involves testing how the links between database objects can be performed, how fast the system would be able to compute the links and how much flexibility the structure allows to the different changes, implementations and operations the Company is performing. In particular, given that the Company is in rapid expansion, the problem is to organize the data's structure to maximize value creation but without closing off to future implementations. The infrastructure must remain open enough to accommodate the envisioned rapid growth. Thus as one engineer says:
“Today because we are not sure how much each category is going to grow we are not sure of the best way of structuring this data set, but we know we have a set of objects: people, stores, products and lists” (Interview, Company’s engineer #9).

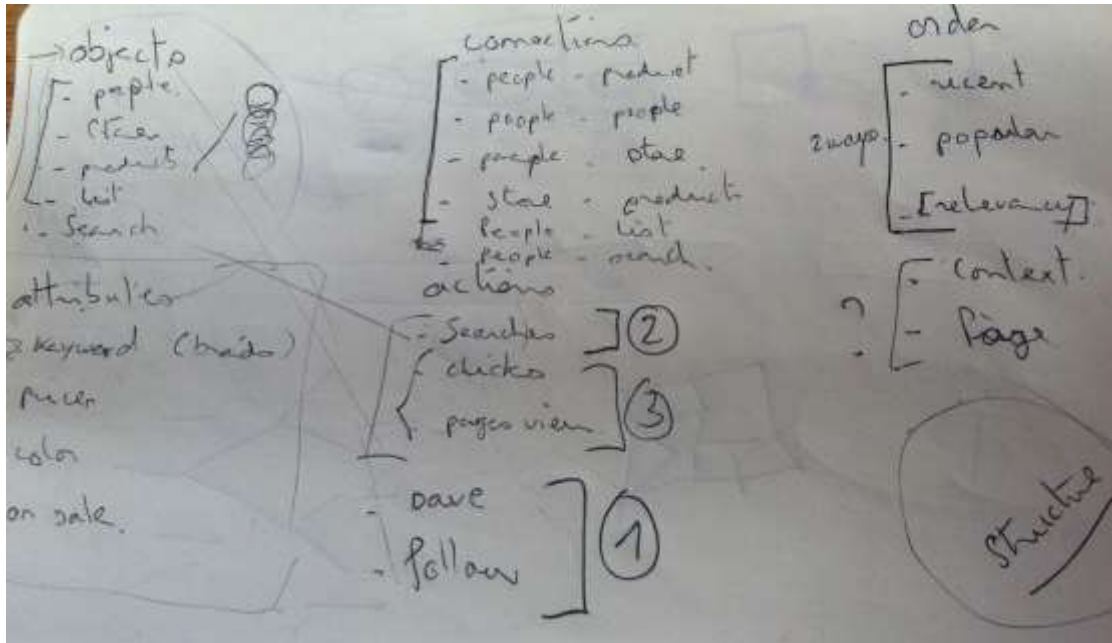


Figure 4: Sketch of the database's structure made by one of the co-founders. Photo taken during one of the interviews by the researcher.

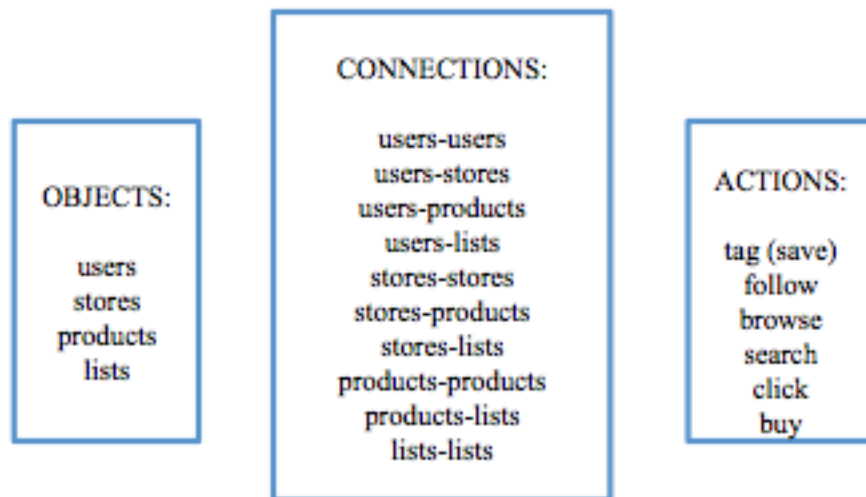


Figure 5: The database's conceptual structure.

The schema exemplifies the relational database structure as 'Objects, Connections, and Actions'. The links between objects operated by actions produce connections. For example, the link 'user-user' is the result of the 'following' action on the platform, which produces the 'user-user' connection in the database. The connection 'user-product' is the result of 'tagging', and so on. Some objects, as we will see, are just the grouping of actions on other objects. For example the 'user object' is essentially understood as the collection of product tagged, thus as the grouping of the 'user-product' connections (see section 7.4.2).

In what follows I describe the principal objects of the system, and how the Company is working along the three dimensions highlighted above to implement its system structure and improve its performance.

7.4.1 Product object

Product data are ingested into the system through ‘tags’. As seen, users can ‘tag’ products from all over the web by simply clicking onto a product image. The bookmarklet system operates by saving the product image on the user profile and on the platform. Thus, on the platform products are images of products, completed by the brief description ‘Saved by [user] at [store]’. Bookmarklets’ data extraction functionality in turn allows the system’s database to store data and metadata on products. The product object (its data format) is generally constituted by the product image, a link to the merchant website, as well as product metadata. Product metadata are product attributes stored in the product table within the system database: price, category, size, color, brand among others. So defined, the product object is the conceptual unit of the system’s database. The system defines ‘user objects’, as well as ‘store objects’, as aggregations of product objects⁴⁵. It is the number of products ‘tagged’ that constitute the ‘user object’. In turn, it is the display of the images of the product tagged that constitutes the user platform profile. I will come back to the user object in the following section.

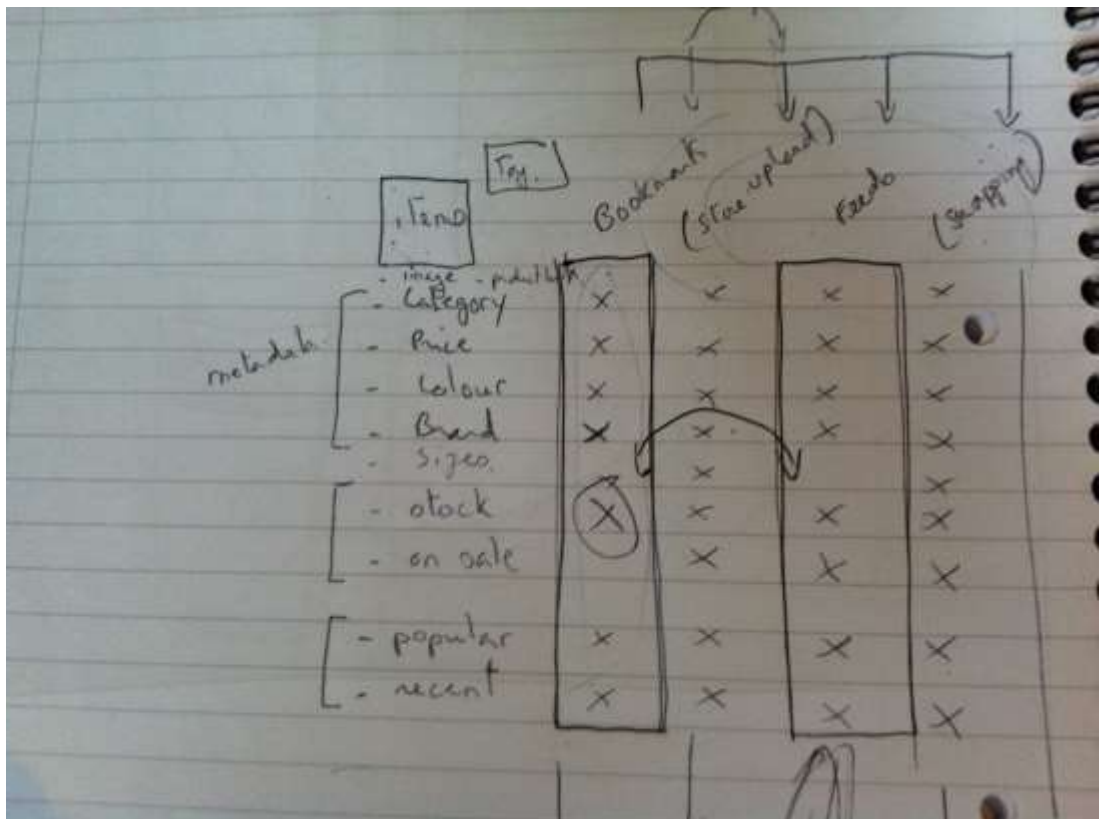


Figure 6: Sketch of the product table made by one of the co-founders.

⁴⁵ It is because of this reason that I will not dedicate a section to the ‘store object’. It is essentially identical to the user object, both are aggregation of product tagged.

Photo taken during one of the interviews by the researcher. From left to right: the first column lists product metadata, subsequent columns represent the different ingestion tools - 1) Bookmark 2) Store Upload 3) Feeds 4) Scrapping.

As of today the platform counts 1.3 million unique items (Interview, Company's engineer #9) and the rapid adoption of the platform's services by users exponentially increases the flow of incomplete data on products that the platform aggregates. Product data ingested through the bookmarklet system comes with irregularities and ambiguities of attributions, missing categories entries and even different image sizes. To address this problem, the Company is implementing several ingestion tools that help increase and differentiate the variety of product metadata (or attributions). The Company is currently working on a set of mechanisms, which are:

(1) The bookmarklet system. The Company is aiming to restructure its bookmarklet system. It is planning different strategies to address the missing fields in product metadata. It is considering either asking users to fill out important missing categories entries, or to build an automated learning system able to fill the gaps in relevant attributions.

(2) The store's uploads. This tool is at its beginning stages. It consists of letting active stores curate and maintain their own list of products feeds. Active stores are store pages which have been claimed by storeowners. Currently the platform has around 40,000 automatically generated stores (by user tagging), and so far 600 of them have been claimed by their owners. When claimed by storeowners and active, store pages work as units - applications as they have been defined by the Company - within the platform (Interview, Company's engineer #9). It means that the pages are curated and updated directly by their storeowners. The goal is to reach a phase where the platform hosts a number of stores that will autonomously fill their product attributions.

(3) Affiliate marketing feeds. This is the mechanism by which the system collects metadata on products from its affiliate partner. The provider is in turn an aggregator of affiliations, meaning that this company normally works with several affiliate merchants, aggregating their own different streams of product feeds in particular formats⁴⁶.

(4) Scrapping. This last ingestion mechanics refers to the automatic learning system by which bots continuously crawl information on products from some of the merchant websites.

Each of the tools envisioned to implement product metadata has its pros and cons. Some offer a more detailed, more scalable, or faster way of injecting feeds than others. The main criteria to be considered would be to evaluate which one of them will serve with both precision and speed. In fact, all the inputs gathered must then be normalized toward the

⁴⁶ The Affiliate partner of the Company, the agreement between them and the marketing model adopted, even if known in details, will not be disclosed in respect of the 'Non disclosure Agreement' signed by the researcher. See Chapter 6, Section 6.6.

Company product categories and metadata map. On the one hand, scrapping seems the most efficient tool in terms of precision and comprehensiveness of metadata about products. On the other, the importance of the bookmarklet system (the ‘tagging’ action) does not reside only in the capability to ingest product data and metadata. ‘Tagging’ also qualifies products. Being an action performed by users, ‘tagging’ qualifies the connections between users and products and it is central for the system set of computations⁴⁷. It is useful to remark that ‘tags’ represent the ‘social side of shopping’ of the platform. Through the ‘tag’ action, the system is able to produce the social data that will be used to compute product relevance and suggest items to buy. Moreover ‘tagging’ as a social action is what allows users to save and thus curate their own selection of products independently from products’ commercial availability. Products saved into user profiles will not be removed, not even if out-of-stock. The Company believes that in so doing, users’ aspirational intent will be safeguarded.

“A lot of people use the platform for inspiration purposes, so we want to keep it and just signal with a broken link that is out-of-stock. There are two reasons for it: the first is just because people would find it weird if they cannot save the image for inspiration purposes (...) the second is that if you keep it and people still search for it, meanwhile most retailers wouldn’t have it, would be still present on the platform, and that could be interesting” (Interview, Company’s engineer #8).

7.4.2 Profiling People

The simplest way of capturing more data about newcomers is letting new users login through general social media. In fact, when a new user joins, data on users needs to be qualified by metadata. Similar to the function that product attributions execute, SM profiles offer a rich set of data about users. After a short initial phase where the two options of signing-in either with email or Facebook were present, the Company has opted to maintain only the Facebook login option. Excluding a rough 10% of the total users who remain unidentified because they signed up with email, currently users sign-up on the platform through their Facebook account. The platform is also a Facebook application⁴⁸. The benefits of an SM connection are several. Firstly, all Facebook applications activities are also displayed on the user’s Facebook profile. This ‘frictionless sharing’⁴⁹ option on Facebook

⁴⁷ A detailed account on the actions implemented by the platform and their importance for the system set of computations will be given in section 7.4.4.

⁴⁸ It is very simple and very common for a platform to become a Facebook app. Once the access is granted, apps can install Facebook plugins that add social features to the website, and dialogs that let users share the website content. As the Facebook Developer page explains: “By using Facebook Login to sign in users with their real identities, calling the Graph API and using Open Graph to tell stories, your users will be more engaged and more likely to return”. <https://developers.facebook.com/docs/web/gettingstarted/> (Last accessed 24/10/2013).

⁴⁹ Frictionless sharing’ means that Facebook’s sharing functionality makes the sharing automatic, unless users choose to deactivate the option.

pertains to Facebook's open graph⁵⁰ and its organization, but undoubtedly also benefits the platform. As one of the founders reports:

“You have got the ability to post on behalf of the user, that is something that helps us. So when you do something on our platform, it can be also shared on Facebook. For example, you can say ‘that is a person that I started follow on our platform’, naturally the news spreads also to users who are not on our platform. They see your activity maybe click on it and they are asked to register. So this is a nice kind of promotion thing” (Interview, Company’s founder a #2).

Secondly, it is through Facebook that the Company acquires demographic information on users, such as name, gender, age, and location. Moreover Facebook's login gives the platform the possibility to gather information on user tastes such as their likes and the likes of their social graph (their Facebook friends). Demographic information is extremely relevant for implementing and diversifying the marketing services that the Company offers to retailers. They allow multiple segmentation possibilities that enrich the pattern of discovery offered to users and retailers alike.

“Socio-demographics are interesting to start for a lot of segmentation. We know who is following you, if he is male or female, what’s the age, what’s the location, what’s the area. The same for people you follow, we know if you tend to follow female or male, if you follow people from your area and so on. We can correlate all of this data with the aggregated picture. So you can see, for example we got a lot of people from Asia on the site and we know what they buy, if Asian females buy different things from Asian males. Or for example we can plot that against what similar people in Europe” (Interview, Company’s founder b #13).

Descriptive demographic information constitutes the first table of the users object stored in the system database. Even more importantly, Facebook’s socio-demographic information leads to the basic level of personalization offered to users. As the founders explain:

“When you sign on Facebook, you have to follow some stores to get the things going. Here we can straightaway say ‘ok, there are stores that you like on Facebook or follow on Twitter for example, do you want to follow them on our platform?’ Or we can decide to let users follow those stores automatically. The same happens for Facebook friends. Obviously if some of your Facebook friends are already on our platform, we ask you whether you want to follow them or not” (Interview, Company’s founder a #3).

“When you register we show you 18 products I think and we ask you to tell us which one you like the most⁵¹. But when you register we already know if you are a girl, so we can show you girl products. That is important because in this way there is no waste in those 18 products. They can be all relevant. If we don’t have that information either we ask you, or we show you product really randomly. In reality we can show you products that are probably of gender interest spectrum, or we can go even deeper that that and show you product from stores that you already like on Facebook. So this is an example on how we try to leverage on Facebook” (Interview, Company’s founder a #6).

Whenever a new user joins, the platform suggests that they connect with “friends who already like stores on [the platform]”. Subsequently the platform shows a list of stores or


⁵⁰ “The Open Graph initiative is a way to take data from other social networks and apps, and pull it into the Facebook ecosystem”. It was introduced on the 18th of January 2012. <http://www.theverge.com/2012/1/18/2717453/facebook-open-graph-launches-mark-zuckerberg-new-partners> (Last accessed 24/10/2013).

⁵¹ On the platform this ‘preliminary selection’ is explained as follow: “we picked a few items for you, add some more you like to personalize your experience”.

brands liked by Facebook friends. The platform assumes that Facebook friends and friends' likes constitute an indication of similarity of taste⁵². Thus the platform actively promotes the connection with Facebook friends ('following'): "it helps in surfacing the right friends rather than everyone"⁵³. Surfacing the 'right friend' is relevant to qualify connections between users and it can be used to compute similarity, a measure of how many products two users share (and thus how similar they are). In earlier stages of the platform, the Company solved the issue of implementing 'following' (connections between users on the platform) with automatic matching - instead of asking to follow the right friends the system automatically matched users who had common Facebook likes.

"So we did a few automatic connections at the beginning but we actually keep on trying that, we have increased it at some point, and then we just decreased it. The objective is really rather than starting with a blank page to start with something that we try to make as good as possible, which is not entirely perfect and from that we really can increase it or improve it but if you don't start from something is very difficult. The recommendation existing on the site right now is very basic, we haven't really leveraged that thing. The most valuable thing is really to have someone go on another user profile and decide to follow it. That is obviously the most valuable one because is really user generated kind of action" (Interview, Company's founder a #6).

Automatic matching has recently been recognized as a mistake. On the one hand, it has introduced ambiguity into the qualification of connections between users. As the vignette above explains, the 'indication of interest' can be considered as a spectrum where the most valuable indication is always constituted by data extracted from user interaction. In the case of automatic matching, the data computed is technologically determined, thus it is somehow at the other end of the spectrum, it has little value. Once data is computed as user 'following', this difference becomes undetectable and can cause fluctuations in the value of following (user-user connection) and, as a consequence, in the results of the computations it enables. On the other hand, 'automatic matching' has caused negative feedback from users as the screenshot below illustrates.



Okay, [REDACTED] some of the things you display are nice, but you have to know that setting up an account for me, adding nine random items (none of which I like) as being my first things I Like on your site, and then (creepiest of all) having my account Follow 27 people I've never heard of before... that really turns people off.

Like · Comment · January 10 at 12:42am near London

Figure 7: Screenshot of the Company's Facebook wall.

⁵² As the platform says: "be inspired by people like you".

⁵³ Again this is the sentence used by the platform to invite users to follow friends.

The screenshot illustrates a negative feedback to the ‘automatic matching’.

The Company later modified the rule, recognizing the need for more transparency in ‘automatic matching’:

“I think that’s another mistake that we made. When you register on the site we tried to match you to other user from your Facebook likes and from the products you tag. Thus you automatically start following some people and some stores, and I must say it worked very well. But the problem is people don’t understand, they don’t understand why they are following other people if they are just arrived. So it needs to be a bit less automatic” (Interview, Company’s founder b #7).

Once the login phase is completed, users have access to the main page, which is constituted by a stream of products to choose from. The more users ‘tag’ products from the platform and from all over the web, adding them into their own profile, “the more their profile will be richer and the data computed on their taste more precise” (Interview, Company’s founder a #3). With users curating their own selection of products, profiles become a ‘social wish list’. These are the spaces where users can save and curate the displays of their taste. Before getting into ‘how’ they do it it is worthwhile to briefly introduce one of the instruments with which the Company has increased user engagement.

7.4.3 Lists

A list is an object recently created by the Company⁵⁴, and it constitutes the fourth object in the system (after product, user, and store). On the platform, it is a drop down menu which allows users to reorganize the products tagged in ‘Lists’. Users can either type the title of the list they want to create or select a ready-made title. The list's functionality is present in different platform contexts.

“The list again has been created for a few reasons, was not necessarily needed, but as it started to grow it was a *good way of motivating people* to keep adding products and organizing them a little bit more. Even though the profile is quite well designed, *users put always an extra care in trying to have like a nice profile*. You have many users who tag something and then go to their profile and adjust their selection on the basis of what they have been tagging. For example if they have got too many black items they remove some black items and add some other colors, they really care about their profile. *At the end of the day list is an amazing way of letting people tell stories*” (Interview, Company’s founder a #16, Emphasis Added).

The list is an optional choice and users can list products tagged at any points. As the founders say it is a simple yet effective way to let people create stories about themselves, what they want, how they feel, or around topics which are of interest to them: color, inspirations, lifestyles. Lists can be constructed around a product's features such as ‘colors’, or ‘garment category’. They can be constructed around lifestyle themes such as ‘sport’ or ‘leisure activities’, or any other inspirational idea. There are lists built around moods,

⁵⁴ The possibility of doing List has been introduced in November 2012, as the platform promoted it back then: ‘Just in time for Christmas’.

weekdays, people's names, amongst other factors. The assumption behind the creation of lists is that by letting people tell stories about themselves, the system would be able to delve more into their tastes and preferences. Lists are built to capture 'something more' about user taste. In this phase, lists are implemented across platform contexts and they have received good responses in term of user adoption. However it is not yet clear how the system will use the data which lists create. On the one hand, lists are adding flavour to the platform browsing experience. The Company is considering implementing the list function for stores as well. In so doing, users will have the possibility of browsing other users and stores lists, thus to have a different browsing experience animated by inspirational categories. Users will also be able to 'follow' other users or stores' lists and to receive updates. On the other hand, the system has not yet gathered a sufficient volume of data to test how to categorize lists and use list data in computation. As one founder says:

"It is very hard to differentiate stories type lists versus irrational lists, it's hard semantically speaking. What I would love to get from these lists is people stories and with that I would like to create some sort of 'sentiment measure or indication'. What I mean by that is to build indicator to compute recommendation based on people sentiment. We cannot really do it today and not many other people can do it on a large scale, so it is more like an experiment. In the future I would like to merge this emotional indicators with external variables. For example, we can try to spot users mood, and based on that we can recommend products. But we can also add data from a weather API or a location API, and connect it with lists themes. The problem is that it's not scalable. The other option would be to let users do that, so if you help them make the title of the list or the description clearer, and you know that it's mainly about summer, sun, or whatever, then you hope - you just hope - that the product in there are somehow related to the title in which case could be interesting. Then you could have summers style by Marc, something like that, that would be amazing" (Interview, Company's founder b #18).

Lists cover the need for stories and lifestyle narration that users have, as highlighted by the company several times. There is a difference in user responses when the communication is centered exclusively on a product or around stories, or lifestyles or celebrities. Automation and scalability of the ambiguous semantics of list's titles and descriptions make the challenge of categorizing them very difficult. When lists reach a strong enough statistical significance the Company will aim towards "tapping into what people think but they would never type in a search engine" (Interview, Company's founder b #20).

7.4.4 Actions: Tagging, Searching, Clicking and Buying

As we saw from the general SM analysis, actions are what constitute social participation on these platforms. Social participation is simplified by programming a set of actions that links users to objects. The system allows users to perform a set of actions that are read as data, connecting objects such as user-user, user-product, user-store, user-list, store-product, product-product.

The principal actions programmed on the platform are ‘tagging’ (sometimes also known as adding or saving), and ‘following’. When users ‘tag’ a product, the action connecting users to products is read by the system as intended purchase data. “Adding is a pretty strong intent because the user is actually doing it, but it’s not really structured” (Interview, Company’s founder a #5). ‘Following’ can be either user generated or automatically generated, as we saw at the beginning of this section, under specific rules⁵⁵. ‘Tagging’ and ‘following’ are explicit intent data. Meanwhile, ‘tags’ are assumed to manifest a clear intentionality on the part of the user to buy the product tagged, and ‘follows’ manifest user interest and preference at large. When users follow brands and stores, it is read as explicit interest data on that particular brand; conversely when users follow other users the system reads it as an indication of commonality of interest. It computes the connection user-user as an indication of similar preferences. Other actions are ‘searching’ (or ‘filtering’), ‘browsing’, ‘clicking’, and ‘buying’. This second group (excluding ‘buying’ of course) constitutes the so-called softer intent data, which are taken as implicit indications of intent.

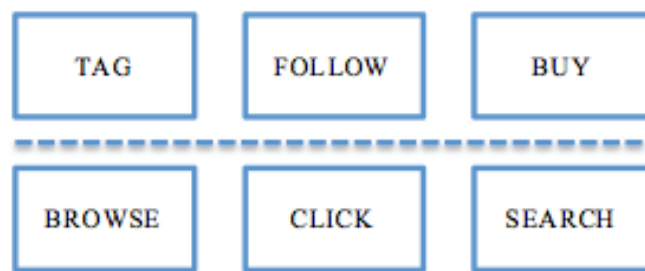


Figure 8: The actions programmed by the platform. Above the line the group of actions ‘tag, follow, and buy’ are defined as explicit actions or strong intent data. Below the line, the group of actions defined as softer intent data or implicit actions: ‘browse, click, and search’.

The Company prefers to base its platform interaction on a limited number of actions. On the one hand, fewer actions help reach a higher volume of user generated data. On the other hand, the Company assumes that users don’t want to be bothered with too many things to do. Furthermore, on a more technical level, more actions performed means less differentiation in terms of intent. This means that with more actions at users' disposal, intent would be diluted. It would make it more difficult for the system to determine the different gradation of intentionality with which different actions are imbued. As the interviewee remarks, when actions are too many the differences blur:

“Sometimes you have ‘like’ as a separate action from saving [‘tag’], so I can like something without saving it [‘tag’]. The problem is that you don’t really know whether the person likes the fact that you

⁵⁵ For example between two users when they have similar Facebook likes, or they are already friends on Facebook, between a user and a store when the user already like the store on Facebook.

have added something, or likes what you have added, so you don't really know how to treat that data" (Interview, Company's founder a #5).

Maintaining fewer actions also responds also to the intrinsic ambiguity in matching people's motivations and actions. In order to cope with ambiguity of user intention, the system also uses the set of implicit actions previously listed. These 'softer-intent data' refer to what people do 'in the background' when surfing the site, such as 'browsing', 'searching', and 'clicking'. It is believed that softer intent data not only complement explicit user intent, but are also a good way to gather data on less active users who don't produce high volumes of 'tagging' or 'following' data. In contrast to the platform studied, e-commerce and marketing strategies traditionally use only the implicit actions as intent data for computing suggestions on products: "so most of them collect what you buy, but also what you view [click], so it's like you recently viewed these things and then they try to build the recommendation on that, they associate these different parts" (Interview, Company's founder a #21).

Among the softer intent group, 'searching' has assumed a particular importance for the system's data strategy. Recently the system began to treat 'filtering' - the way in which users look for a specific item, brand, store or list - as 'searching' data, structuring it as a clear indication of people's intent.

"You could say 'show me jackets, or show me apparel, or show me a design piece, or furniture' and the data you get from there is a pretty big one. We will capture all of those things so every time you search or query for something, that query will be captured and put against your profile. The idea is to understand the patterns of searching and use that are required to compute product suggestions" (Interview, Company's founder b #7).

The recent implementation of the product categories menu and of the search box functionality has changed the weight of 'searching' - or 'filtering' - action. Given the increased use of queries on the site, the data produced by 'searching' has acquired much more relevance. Thus 'searching' has gradually abandoned the softer intent group entering in the group of explicit actions that are assumed to stand for purchase intent data. 'Searching' (or 'filtering') data expands the possibilities of pattern matching between searches and product categories, allowing the system to refine personalized suggestions.

A final set of actions data is provided by tracking user 'clicks' through the merchant website for effective buying. Currently the Company is implementing its tracking system with the aim of having a complete set of data on transactions at the individual level. As we have seen previously, when users 'click' on a product image, the one-click functionality embedded in the bookmarklet links the product to its merchant website through the affiliate partner, allowing the purchase. In this moment, the system collects data on volume of outbound clicks, basket size, conversion and commission. However, with the forthcoming activation of

the affiliate company's tracking API (Application Programming Interface) the system will be able to individuate every user with a tracking code. This numeric code in turn will provide the means to track every click and buying action at the individual level.

“[w]e can put a lot of information in the tracking code (...) we will know that user x has bought product y and in turn we will know that is female, that is 15 years old and lives in London. We will actually know even her Facebook ID, so we know her friends as well. So we basically identify that specific purchase against the whole user history. That means we know what you have been looking at, which stores are you following, if you tend to buy the products that you clicked on in the first place, or if you tend to buy product from stores you are following, and also from where did you arrive at the purchase. For example if you clicked from a product page or from a store page, from a list, or from a product category page and so on and so forth” (Interview, Company's founder b #16).

The tracking system will surely be significant in understanding patterns of sales, however it remains just a piece of information in the complex data-scape the system has in place. In contrast to a pure merchant site, the Company's aim is to find different ways to engage users and let them perform the complete set of actions built on the platform. The anatomy of the entire set of actions programmed provides data that helps obtain a wider understanding of the ecology of motivations that may lead to buying. The system has been purposely designed with the awareness that different actions may respond to - or be driven by - different motivations. The system is based on finding alternative ways to match actions and motivations. Its main aim is to unlock the potential behind user's motivation to buy. For example, understanding what pushes users to 'tag' products on their profile instead of buying them may give the system valuable data in terms of alternative ways to compute suggestions. It may also lead the system to the discovery of potential new targets for established classes of products or potential new products to be placed on the market.

“We are trying to present products that are exciting, and you have got different things: the inspiration ['tag'], the click, and the sale that create different performance funnels. So you can realize that you are really interested in that kind of products, but then you buy other things. I'm sure this is the norm, because you know a lot of the activity is aspirational, so many people save ['tag'] a lot of things that they cannot afford. But this is exciting for us, here you can create associations, you can understand that the aspirational brand can be connected to a similar but cheaper brand and thus you suggest different things” (Interview, Company's founder a #17).

Thus all the different actions - tagging, following, searching, clicking and buying - constitute the complex consumption ecosystem on the platform.

“So for now we are in between click and buy, we know exactly what you have tagged, what's the brand, what's the product, where it is from, who has done the tagging, what is the metadata of the product and that kind of things. We know all of that for tagging and for clicking as well. So for every outbound click we know what you have clicked on, what is the store, if you follow the store, and obviously who you are, that gives us lots of data. Now the only thing that we have to do is basically to send the tracking code to the affiliate partner, and then plug their API to get the information on buying back and complete the picture” (Interview, Company's founder a #17).

The relationship among actions is exemplified in the chart below. As one of the interviewees declares: “the volume of actions is inversely proportional to their intent-strength” (Interview,

Company's founder b #18). In other words it is expected that among the explicit actions ('tagging' 'clicking' and 'buying') the action with the softer intent strength would produce the higher volume of data. It is clear that 'tagging' is the most commonly performed action because it is aspirational and free. It gives a good indication of purchase intent but at the same time its signal is weaker than 'clicking' and of course than 'buying'. Neither just 'clicking' nor just 'buying' though would have been able to procure the large volume of data the system needs in order to compute suggestions.

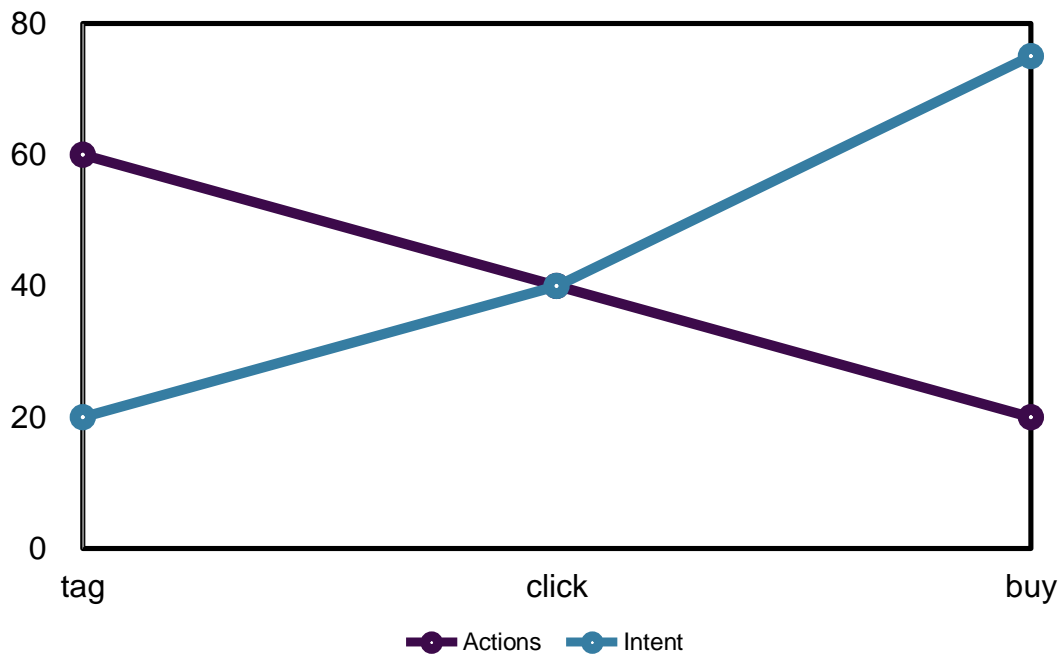


Figure 9: Chart illustrating the proportion between volume of data procured by explicit actions and the strength of intent.

The computation of actions is what gives the system the possibility of measuring intent to buy. Actions are usually computed against groups of users or products to uncover patterns, trends, and different measures. The most relevant are popularity (of users, products, and stores), and influential users. In both the individual and group computation, if the computation is performed against an object or a group of objects, the key is obviously pattern making and correlation. Computation is then executed on the basis of different variables. For example it can give the most popular product with a determined feature (color, product typology, brand). Popular products can be then correlated to a particular socio-demographic target. Computation can thus be performed against a norm, a socio-demographic data set, or against a significant product or user category, a group, or class of objects. Naturally actions and 'tagging' in particular are what drive computation. 'Tagging' is assumed to stand for purchase intent data, and it is used as proxy to compute user interest. In this sense 'tagging' also becomes a unit of measurement; it is at the basis of computation

of important measures. The measure of influential (or popular) users, for example, is the result of computation of “how many times products [tagged] have been retagged from other people” (Interview, Company’s founder a #9). The measure, besides its understandable power of coagulating attention and indicating what are the trends at the platform level, can serve other purposes. It can be used to correlate influential users to particular stores, and can be reversed, providing popular items or popular stores and unlocking a set of vast possibilities of differentiating suggestions, offers and rewards.

“The idea is that influential people on stores should have a different status, should be rewarded in some sort of way which is what stores have always wanted to do just they never had a way to source those influencers. (...) Meanwhile through our system we can see if you are actually influential (...) which is another mechanism to promote products so you have personalization and you have influential people who have done the job” (Interview, Company’s founder a #1).

In this sense, influential people become what in social media marketing are known as ‘evangelists’ - users who have “been responsible for helping others the most to find the right product” (Interview, Company’s founder a #5) but also promoters, and marketers in their own right. The influential measure so computed is taken as an objective indication of the popularity of any object to which it is applied: “The retag thing is really hard to cheat, which is a good thing, you can influence, obviously nothing is perfect but it is really hard to cheat, so it’s a good measure of the reality of something, or of the expertise on something” (Interview, Company’s founder b #19).

Before delving into how actions and measures are used to personalize suggestions, the next section will describe how actions inform the price of the services offered by the Company.

7.5 Commercial value

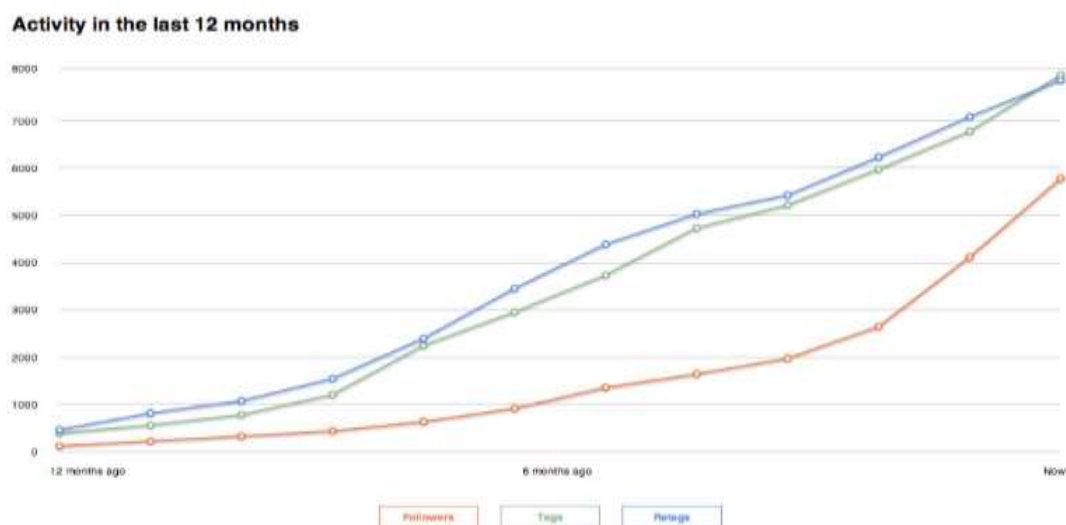


Figure 10: Screenshot of a store’s dashboard in the platform. It illustrates the tracking of consumer’s activities broken down into actions.

Actions serve another important objective. They provide the Company with an accountable and quantifiable measure for their marketing activity. Action data are a demonstrable return on investment (ROI) that allows the Company to price their services to retailers. As Figure 10 shows, every store has the possibility to track the different activities users perform on a dashboard. In very simple terms, actions constitute a unit of measurement of user engagement and thus quantify the commercial value of their engagement. They are used to price user engagement and what it stands for (attention or intention). “What we want is a proper kind of ROI model across the platform, and if we can have it that’s amazing because we can give retailers a reason to buy” (Interview, Company’s founder a #12).

We have already seen that the Company's long run revenue model is more oriented to advertising and marketing. The natural development of ‘the internet department store’ is to grow from an affiliate marketing model, to a place where information is organized in relevant ways for individual users and thus where retailers need to compete to sell their merchandise to relevant groups of potential consumers.

“This is performance based advertising. The beauty of advertising is that you don’t know what you pay for, is a bit like art almost, obviously the more you can reassure the client in proving data that demonstrate that’s actually worthwhile the more they going to spend money. That is the reason why Facebook started the ‘Like’ button strategy, with Likes they track you throughout the network and across the web, and now they can almost demonstrate a return on investment. Anyway is much harder for Facebook because their activity spectrum is too broad” (Interview, Company’s founder b #11).

Actions are thus computed to personalize information for users on products and at the same time are the data sources for personalizing marketing offers to retailers.

“Each object has a main action. For example for the store object the final call to action is follow, for list object is follow as well. So when you promote your store, off course you can still be happy if people click on it and browse that store but ultimately you want people to follow your store, that’s your aim. That is the meaning of ‘final call to action’. When an object has its own action it has a kind of lifetime value. It is the same thing on Facebook once you have Liked a page you don’t dislike it, so Like is the final call for pages on Facebook and has a lifetime value. On our platform once you follow a store, then you automatically see the stores’ products on your homepage, you receive update. In this sense whatever they pay is going to have a lifetime value” (Interview, Company’s founder a #10).

We have seen that the Company has already begun to sell data analysis and insights to retailers. It also tailors its offers on the basis of different user actions (consumer motivation), targeting potential new groups of consumers in very specific ways. For example, responding to specific store requests, as an interviewee says: “do you want to advertise your store to people who tag your product but don’t follow your store yet?” (Interview Company’s marketer #14). The ‘follow’ action thus becomes the ‘product’ to sell to retailers. The reason why the action of ‘following’ is to be preferred, to the ‘tag’ action for example, is fairly evident: “there are many products on the site so as time goes tag disappears, and what you

paid for to get your product tagged is going to slow down as product get older” (Interview, Company’s founder a #10). ‘Following’ instead has a more permanent character and its price is obtained:

$$ACPF \times ECPC \times TF$$

Where ACPF is the Average of clicks per follower, ECPC is the Average Earning Per Click and TF is the time frame or purchasing cycle. TF is the time lapse during which 'following' is active and efficient. The formula is obtained from the average conversion rate of the clicks - how much money each click is creating on average for a specific retailer. Naturally the aim of the Company is to increase the precision of the formula, moving from averages to individual computation, and that is what they are planning to do after the tracking API is in place. Regarding the third term of the formula, it is still not clear how to determine the time frame. On the one hand it is true that once a user performs the act of ‘following’ a store, it is rarely undone. However the ‘permanent’ characteristic of the following action does not match well with real time data on purchasing, seasonal timing of fashion market, and system growth.

“To start with I think we will have a flat price, it is simpler, ideally then you could charge if the competition for the same segment goes up. For example on Google and Facebook you have a recommended price which is like \$6 but if a lot of other stores want to advertise on the same segment the price increases. It is like a bidding system, and that is the reason why people on Google pay \$10 for one click and not even a converted click! That is crazy. But you know if you have a bit of a marketplace then you can build competition within, and then the algorithm will be a mix of relevancy and the offer. To give you a reference point the minimum on Twitter is 50 cent per follower and the recommend spend is two dollar and it is just ridiculous, they don’t even provide a reliable tracking line!” (Interview, Company’s founder a #10).

The Company-promoted placement is a business model obtained by the action implementation and computation:

“[t]hat is just a model, we could have the value of a tag, we could actually get that information conceptually. What I mean is that if you place a promoted product to be tagged or clicked on, I can surely measure the value of that placement because I have the data on the non promoted placed product response. So I already know how much a product tagged by three people is valued, in terms of time is displayed on the site, and in term of results of the average click and average buy. So I can do it” (Interview, Company’s founder b #11).

Actions connect objects and create the commercial value of data, and of users as well. It is the presence and engagement of users which creates the unique selling point of the Company services. Today the value of a registered user is high but the volume is still low. To become a profitable business the Company needs to increase the value of unique registered users and the volume of their data proportionally.

7.6 From recommendation to personalization

If we wanted to define the model for the Company's recommendation system in a nutshell, we could say that it has evolved from imitating Amazon to adopting a 'Netflix model'. At the beginning, the concept of algorithmic recommendations (collaborative filtering) of the 'Amazon kind' was the preferred one, and the Company saw itself "taking Amazon recommendation concept and put it on steroids" (Interview, Company's founder a #1).

Having in mind a recommended system based on collaborative filtering the Company at first worked to implement the 'similarity' rules by collecting data on users from SM and implementing their 'following'. Recommendations in this model were computed on the basis of what connected people choose: "the more accurate the people you follow are - the more they show their taste - the more accurate the recommendation is going to be. That's how the personalization is going to happen" (Interview, Company's founder a #1). Thus the goal was to reach a viable volume of users' taste data ('tag') regrouped on the basis of taste similarity ('follow'). By automating user regrouping on the basis of similar taste (common Facebook Likes), the system implemented the upfront personalization. As seen, since their very first access, users are suggested other users or stores to follow. The second degree of connection data (to whom a user is connected) is central in this model. It is what sustains the computation of suggestion for less active users (or newcomers). "So even if you don't do anything in our system we can still look at whom you are connected to, and say - ok your friends have 'tagged' that so you will probably 'tag' that as well" (Interview, Company's founder a #1). In general, for the collaborative filtering models, a problem such as the continuous ingestion of new data on users and products becomes extremely relevant, and needs to be addressed with other data sources or further computation refinement.

During the fieldwork, the Company's idea of personalization moved from Amazon's collaborative filtering to Netflix's system of query whereby information is directly elicited from users via various queries with respect to user choices. Different motivations pushed the Company to move closer to Netflix. The parable of the film platform is quite explicative of the conceptual evolution of the Company from recommendation toward a more holistic view of personalization. Netflix has championed the perfect algorithmic recommendation for a while; it famously arrived at instituting a prize for whoever was able to increase the precision of their already existing algorithmic recommendation. However, more recently, the movie platform came back to a simpler system, where transparency and step-by-step explanation of suggestions seem to have taken the place of the perfect algorithm.

“Netflix I think they have simplified it a lot, I remember maybe five years ago or something like this they have put out they would pay someone a million dollar if he could find the algorithm to personalize. I think they don’t use that algorithm to personalize anymore they have just actually simplified the entire thing, *so instead of trying to guess what you want*, they just bring up these different queries. So it’s like “ok last time you watched this film and we recommend this, did you watch that film” that’s actually a very simple algorithm and that just coming out with all these different queries, every single one of them very simple algorithm. *I think whole simple idea is silver bullet, instead of saying we know what you want with this very complex algorithm. It does not work*” (Interview, Company’s founder b #4, Emphasis added).

The Company’s founders recognized Netflix’s move toward simplification as extremely relevant. They variously remarked on the importance of “opening the algorithm black box”, or “simplifying the approach to personalization” or “being more explicit” always referring to the Netflix’s story. Eventually, they opted for constructing a much simpler and integrated system of personalization where users have the possibility of exploring and navigating through several layers of personalized contexts. In contrast to collaborative filtering suggestions, where user-user connections are central, with a system of this sort in place the personalization is based on the whole spectrum of data created by user activity on the platform (social data). Let me recall that second degree of connection stand for ‘to whom an user is connected to’ (‘follow’), meanwhile the system computation relies on a much wider spectrum of data (‘tagging’, ‘following’, ‘clicking’, ‘searching’ and ‘buying’ – see section 6.4).

“It will be more like Netflix basically (...) that’s our first step toward personalization, *by collecting data not necessarily just by buying action, but also by adding action, your wish list, even your viewing action, and even if you are not doing anything* we always have the second degree of separation and we can recommend things based on what your friends are doing. So we are basically using the intent data we are collecting and also social data we are collecting with the second degree of separation to personalize” (Interview, Company’s founder a #3).

The two models of recommendation (Amazon and Netflix) thus differ in major ways, and differences are both technical and conceptual. Regarding the technical reasons, it is worthwhile to remark that it is easier to have an ‘open algorithm’, or a system of less complicated algorithms in place, instead of building a very complex and also fallible algorithm.

“Netflix I love them. (...) Instead of working with a very complex algorithm they are working with queries: simple queries that can be easily verified. It’s very simple to build these kind of algorithm, every query is an algorithm and it’s not difficult to build a system like that” (Interview, Company’s founder b #4).

Moreover, by adopting a more holistic view of personalization, the system avoids an over-dependence on connections between similar users. It is by leveraging on its whole set of data (mostly social data produced by action and social data extracted by SM) that the system can overcome (at least partially) the problem of newcomers. Furthermore, given that the system is built entirely on aggregate objects, it processes database queries faster and it is able to be

responsive enough to recommend possible real-time routes to shopping. The aggregate objects in particular (stores and people objects), result in faster computing and even make suggestions easier: “the number of connections is much bigger so you might get an idea of how much it is, overlapping the two groups, that is in a way a percentage of their similarity” (Interview, Company’s founder a #6). On this account, the founders believe that having in place a system of this sort can even better meet users’ psychological needs. They believe that suggesting stores or people instead of products is less prone to being judged as wrong by consumers:

“It is more pure psychology I think, it’s easier to get it right with the store or a person than the product, because if I recommend you one product, you either like it or you don’t. It’s like black and white, whereas if I recommend you a person or a store, it’s more difficult to judge the suggestion. Let’s say I’m getting a recommendation of following you, I’m going to check your profile and I will see that in your profile there is a majority of things that I like and few things that I don’t like, I cannot judge you, I will judge your products, but the suggestion will be accepted” (Interview, Company’s founder a #6).

This last point perhaps remarks on the major difference between recommendation and personalization (the difference between Amazon and Netflix). The two models respond to different logics of suggestion. Personalization does not recommend to users a probable solution to a specific problem, but is rather oriented towards suggesting different possibilities.

“I don’t say recommendation, I think recommendation is overrated, (...) the problem with recommendation is that is really hard to get right, and if you do say it’s a recommendation and users don’t like it, then you are like in trouble with those stuff, and you loose everything. So rather than say ‘here is the product that you are going to like’ we turn into ‘here is a bunch of black jackets because you recently looked for black jackets’ or ‘ here are products that are popular within the friends you retag the most from’ kind of thing. It’s more like suggestions kind of thing, it’s almost revealing insights. So it’s more tapping into the curiosity, rather than do straight kind of recommendation kind of things. And we just call it ‘assisted discovery’. And I guess it’s better to have a good assisted discovery than a bad recommendation” (Interview, Company’s founder a #5).

As stated by the founders, the aim of personalization becomes not so much to recommend products that you will probably like, but to surprise you with insights that might reveal your taste, behavior, and inspirational sources (Company’s document #12). Ultimately, the Company aims at achieving an ‘assisted discovery’ platform, which surprises users with new and intelligent ways of looking for products, stores and other users.

7.6.1 The Social Algorithm

The platform’s two main contexts are ‘My Feed’ and ‘Trending’. The ‘My Feed’ page is constituted of personalized product feeds selected on the basis of stores and users followed. The ‘Trending’ section has recently been implemented. On this page, users can browse trending products, categorized and ordered by the social algorithm the system has in place. By opening the ‘Trending’ menu users can browse the selection of products or, alternatively,

they can type a keyword, searching any kind of product category they would like to browse. The social algorithm is composed of two main measures: popularity and timeframes. Popular items are obtained by computing retags: ‘how many times a tagged product has been retagged by other users’. Timeframes are time units, further segmented in three typologies of results: trending now, last week and last month. The algorithm works at the network level - popularity is a measure obtained by computing the retags across the whole network. The ‘Trending’ section, in contrast to the ‘My Feed’ section, thus surfaces platform’s network results, and does not take into account users’ network (user’s ‘following’). The diversification answers to the personalization philosophy adopted by the Company where ‘assisted discovery’ frames every platform’s context. In so doing, the ‘Trending’ section “is already a way of personalizing results without personal suggestions, in a way we involve users with different concepts of personalization. In Trending, even if results are computed at the network level, is another way of personalizing” (Interview, Company’s founder b #13).

In this moment the Company is working at elaborating the exclusion rules of the algorithm, and its computational refinement: “the exclusion rule is really around what is defining the objects [product, user, store, list]” (Interview, Company’s founder b #13). Given that the algorithm has to surface results under the different product categories requested, it needs to automatically exclude the less likely results for every computable query. On top of this, the Company is also implementing product categorization and the indexing of stores and brands. Given that the algorithm already has a low error threshold (of about 9%) the Company’s priority is to work by setting up the most relevant exclusion rules⁵⁶. With the social algorithm in place and refined, the system will be able to compute efficient suggestions broken down by product categories. For example the algorithm will be able to surface products under queries such as ‘Male popular users for books’ or ‘Popular stores for black jackets’. It is worthwhile to remark that the algorithm so implemented will be able to display reverse results, for example displaying popular users and stores re-grouped under specific categories.

“Then you can query the most popular user in my network, that is modeled through category [of products], where the users you are looking at is constrained by a specific set. Then we can add gender, so we can say show me just the female or the male, or we can have location, or even age, we can go very deeply into that. (...) You can do as many things as you want. You can also add widgets or something external like show me popular user when is sunny in London. What I like about this approach is that you define the model and then you know the model can scale. I don’t think we are going to use everything, because is going to make it too complex but we can tailor the algorithm differently for stores for example” (Interview, Company’s founder b #13).

⁵⁶ Two of the exclusion rules the Company is working on at the moment are about out of stock products and gender. The latter in particular is set to exclude the non required gender, for example if a female user type a category of products like ‘shirt’ the algorithm needs to exclude the male shirts from the results. Even in this case the rule is obtained by building a matrix where the gender of the users who have tagged and retagged specific products are cross-tabulated obtaining the product gender.

By scaling the group object aggregations (users and stores as aggregation of products) the algorithm can surface top users, top stores, top categories and eventually top lists, both at the network and at the individual level. Eventually users will be able to discover top members, categories or stores even within their own profile.

“When all of this refinements will be in place then you can start to create different stuff, like how much you have in common with another person, or things like that which are a bit more complicated, not complicated technically but in terms of performance. (...) So here we would be able to tell you who is popular in the site or in your network, in that kind of category or that kind of thing this is really good for discovery that’s one way of discovering people, stores, products and so forth” (Interview, Company’s founder b #16).

By doing so, the platform personalization system will come closer to an holistic view of personalization, one that computing the whole spectrum of social data, integrates different modalities of suggestions to build the assisted discovery platform.

“It is not about having one recommendation box kind of thing it’s having a lot of them, and depending on the day or maybe on what the person is doing, some of those softer recommendation will be more important than others, so that’s how we defined the structure, the way we organized data and the intents [data]. Ultimately, if you arrive to a stage like the one I described, with suggestions telling not necessarily what you like but more positively surprising you, then I mean that’s a success. That surprise or that positive thing will make the site move further, it does not necessarily need to be on the product in itself but more on the insight. (...) So I almost see personalization as giving you insights that you did not know about yourself. For example I love to go to my profile and to tag quite a lot of things, but I don’t know who is the person I retag the most from, what is the color that I like the most. (...) We are in the position of telling a lot more, when it comes to choose that information, that insight, that I think it can surprise users, in this way I think users will want to see the results as much as the reasons behind them, and it is more exciting than being suggested with specific products” (Interview, Company’s founder a #5, Emphasis added).

7.7 Conclusion

This chapter has sought to provide a flowing narrative of the Company studied. It proposed a description of a typical ‘data driven organization’ in its startup phase. After the introductory section, a brief historical account on the founders and on the Company’s origins has been provided with the aim of tracing references and inspirations behind the business model. The core of the Company’s business is to innovate consumption by relying on data reorganization. “Data instead of content” summarizes the main aim of the Company.

By building on that, the second part of the narrative has sought to reconstitute a detailed account of the Company’s data infrastructure and implementations. In particular it has reported features of the database design: its main objects, its method of implementing data ingestions tools, and the action data upon which the Company bases its own data reorganization.

One of the most relevant Company characteristics which emerged from the narrative is that its personalization system is different from the work done so far by commercial '.com' websites. For example, it does not base its users' behavioral data on traditional tracking tools (view or click and buy), but emphasizes the platform's social features, maintaining social participation with gamification, offers, and rewards. This 'social' characteristic is matched by the personalization philosophy adopted. The Company aims at providing assisted discovery instead of recommendations, setting itself apart from Amazon's collaborative filtering mechanics, or from other recommender systems so far implemented in commercial spaces.

8 Analysis

Introduction

This Chapter proposes an analytical reading of the SSP system functioning as system of signification. Proceeding from the empirical description given in Chapter 7 (see in particular Section 7.4 ‘Social Shopping Technology: database, tokens and measures’), I here pin down the mechanics of technological signification used by the Company’s system to translate consumption into bits and virtual pieces. The purpose is to lay open the logic adopted by the system to construct a data-language of consumption. It is relevant to remark that the way I frame the empirical evidence is motivated by the semiotic theoretical approach proposed in Chapter 4 (section 4.2.1). Structural semiotics is used to unpack the logic of ‘sorting, storing and selecting’ data and to support the explanation of the system’s infrastructure as a locus where consumption is grammatized and re-constructed under the specific operations and rules of the technological medium. Thus, if the preceding Chapter has described the system’s infrastructure conceptualization and design, this Chapter offers an analytical interpretation of how the system’s functionalities translate consumption.

Social shopping platforms mediate sociality, individual internal motivations and communication processes. They offer a socio-digital setting for consumption to happen as a personally meaningful process. The intention of the present analysis is to reconstitute a picture whereby some of the less conspicuous zones of mediation behind the platform’s functioning will be illuminated. In digital consumption settings, these zones concern the mechanics of data gathering, data structuration and computation that stand behind the platform interface. As we saw previously, data must be selected, stored, and organized to make sense, to construct a coherent scenario for personal consumption to happen. The case study narrative of the social shopping platform has thus offered the context within which it has been possible to isolate, code and analyze the distinctive logic and functionalities which condition data organization and information production: the ‘non-material’ properties of SSP mediation. The explanation offered in what follows is thus the precondition to understand how the knowledge space of consumption becomes undergirded by digital infrastructure and reproduced under the logic of data and information technology. In short this chapter explains the data work of the system. That is, how it organizes and structures data so as to extract value from it, producing personal consumption information. Starting from the considerations exposed here, chapter 9 will consider how SSP technology refigures consumption experience as a ‘modality of the social’ and what kind of ‘role’ it presupposes for consumers.

The main argument I will line up in this and the following chapter is that social shopping as a system of signification (the ‘technical’) creates a set of artificial conditions where relations between the ‘social’ and the ‘personal’ are refigured (see chapter 4, section 4.1). By attenuating the existing links between ‘the social’ and ‘the personal’, the platform’s technology opens an alternative space for mediation. The platform’s system innovates consumption by disassembling traditional socio-cultural processes and reassembling them under the rules and logic of data structure and technological functionalities. By doing this, the system is able to produce personally relevant information, constructing a new computationally empowered experience of consumption.

The chapter unfolds this process gradually. The first section offers an overview of the system functioning as a signification system. By synthesizing the logic behind the mediating operations carried out by the Company’s system, the section acts as doorway to the system analysis exposed in detail in subsequent sections. Section 8.1.1 exposes how the computed sociality produced by social media constitutes the premises for the digital rendition of consumption carried out by social shopping. SM, in my argument, paves the way for a codified social interaction that is instrumental to the reorganization of data on sociality, and becomes the *natural* way to experience the social online.

The core sections of the chapter (8.2 and subsections) analyze the whole ecosystem of actions programmed on the platform – what is commonly designated as social participation on general SM – and how they sustain the digital proceduralization of consumption. Consumption is now disassembled into programmed actions that break the continuum of consumption processes. The data produced by programmed participation is key for the system’s infrastructural design and implementation. The sections explain the work of database structuration and normalization accounting for its value generativity. The word ‘value’ throughout the chapter is to be intended in its semiotic sense as “established by position and differences and appearing only when different phenomena are mutually compared with reference to the same system of relations” (see Eco, 1979, quoted in Chapter 4, section 4.2.1). The next chapter in turn, will discuss how the technological production of value so intended gets re-socialized into consumption domains and with what consequences.

8.1 The information infrastructure of social shopping as a system of signification

When the two co-founders first met, their main idea was to develop a system able to re-organize all the information available in a given domain, making it personally relevant for each and every user. Recognizing what Spotify was doing with music they considered:

“If you have all the songs in the world, you know, and this is pretty much the case, how do you organize them and how do you build some sort of personalized kind of discovery experience with that?” (Interview, Company’s founder a #12).

Behind the enterprise’s motivation lies the challenge of having all the information in the world and being able to make sense of it, that is, organizing it to offer a meaningful personalized experience of shopping.

Online media collapse public and private spheres. Products, consumers, and stores enjoy no separate modes of existence; they are all information to be reorganized. We saw how marketing and communication practices have developed criteria for organizing information on consumption and on consumers that have constructed both consumption and consumers. Intermediaries such as retailers and media have in turn organized what Weinberger calls the first and the second order respectively (Weinberger, 2008). Retailers have been in charge of selecting and displaying goods, meanwhile media institutions and tastemakers have selected and organized information about goods. Social shopping platforms encompass all the above-mentioned different spheres of information on consumption. They are social settings and media. They aggregate information on retailers and goods as well as information on individuals and groups. Furthermore, not only do they need to organize information about consumption, they have also to integrate the possibility of consumption with their communication and signification functionalities. Under this light, the question of reorganizing ‘all the information in the world’ appears in its sparkling complexity. It involves not just a simple information reorganization, but invests a problematic of a more general level such as: “connecting forms of knowledge with heterogeneous modes of elaboration” (Desrosières, 2002, p. 93).

In subsuming previously separated modes of consumption representation (forms of knowledge) into data tokens, social shopping platform systems construct a distinctive logic of knowledge representation. Social shopping systems disassemble the social practice of consumption into data language and reframe the knowledge space of consumption by producing new and distinctive computable objects that represent consumers. These computable objects emerge out of specific technological functionalities such as data structuration and computation. In order to execute this operation, the system needs to establish new taxonomies - categories of equivalence. These cuts or joints, which connect separate modes of representation, are usually formal conventions within a system of representation. In this sense every system of representation is similar, insofar as it needs to connect disparate elements by formalizing and ruling them under its own conventions. I am referring to any system of representation needing to establish an arbitrarily chosen sign (or

group of signs) that encodes the instruction for all the others to perform, once they have been formalized. This arbitrarily chosen sign (or sign-function⁵⁷) is what conditions a determined class of equivalence to emerge.

The technological criteria of information ordering constitute the core of my explanation. Once a particular social domain has being digitized, it is the organization of its parts as a data structure, that is, the logic and criteria by which relations among data are established, that produces temporary bounded values: personal informativeness.

Personalization responds to the necessity of finding criteria to make the informativeness of ‘all the information in the world’ easily accessible to each and every user in personal ways. One should be able to find what one likes easily and without even searching for it. The aim of these platforms is to anticipate user preferences by suggesting personal routes to shopping. Social shopping platforms build personal experience of shopping in real time, by constantly reorganizing the relationship between social data and product data. As we saw from the case narrative, the system operates on two different typologies of social data (see Chapter 7, section 7.4). It gathers social data from social media and it extracts social data from the platform’s sustained interaction. Central to the actions programmed by the system on the platform is the tagging-action (also called saving or adding). It procures both social data and product data. On the one hand ‘tagging’ stands for an indication of user’s intent to purchase. On the other hand, users ‘tag’ using a bookmarklet system which embeds the data extraction functionalities that procure product data and metadata (see Chapter 7, section 7.1). In our system ‘tagging’ qua purchase intent becomes the sign-function around which the infrastructure is designed. In semiotic terms therefore, this sign functions as a rule. It is the meeting ground for independent elements, and the index that connects separate positions within the structure. These relations established by positions and differences are what generate values (informativeness). The new relations, obtained by data juxtaposition and computation, become new data objects. Socialized products (‘tagged’ products), under the convention of aggregation and database language, are assembled to form new categorical entities. These new assembled consumers enter in relation to their own parts (metadata) to generate additional *differences* (see figure 11). In turn, the computation performed on these new objects generates the measures by which information on consumption is reordered on

⁵⁷ I have borrowed the term sign-function from Eco. As he explains: “a sign-function arises when an expression is correlated to a content, both the correlated elements being the functive of such correlation”. He himself takes the term from Hjelmslev, a structuralist who, theorizing the relations between content and expression planes, uses the term to signify “the meeting ground for independent elements”. It is just in its sense of meeting ground for independent elements that I will use the term, specifying the functive (or plans that enter in relations) along the Chapter (Eco, 1979, pp. 48-50).

the platform: popular, trending, and influential. The measures and values produced are in turn able to construct a new, technologically empowered and computationally enabled, experience of consumption.

Before describing the infrastructural conceptualization in detail, let me remark that the system designs an infrastructure of *social* consumption. In order to extract personalized value qua information from its data structure the system needs to formalize and encode the social side of consumption as data. These operations are different from what commercial spaces have done so far. SSP technology makes products ‘social’ and the ‘social’ valuable. As we will see in detail in what follows, the system correlates products with intention to buy (‘tags’) and, using determined conventions such as aggregation, it constructs more general entities to which individual cases can be referred. This powerful connection is what allows the system to *infer* intention to buy from individual cases. It is probably now clear why I argue that the data infrastructure can be analyzed as a signification system. The infrastructural properties of the system, its conceptualization and execution, are what create new values (information). Personal information is thus extracted from the juxtaposition and correlation of dispersed data, in turn the system computes social consumption and suggests consumer behavior. Figure 11 serves to illustrate the strategic principle behind the system’s infrastructural design. It connects data structuration with semiotics, observing the capability of technology as a signification system: how it produces new meaningful entities from data structuration, combination and computation.

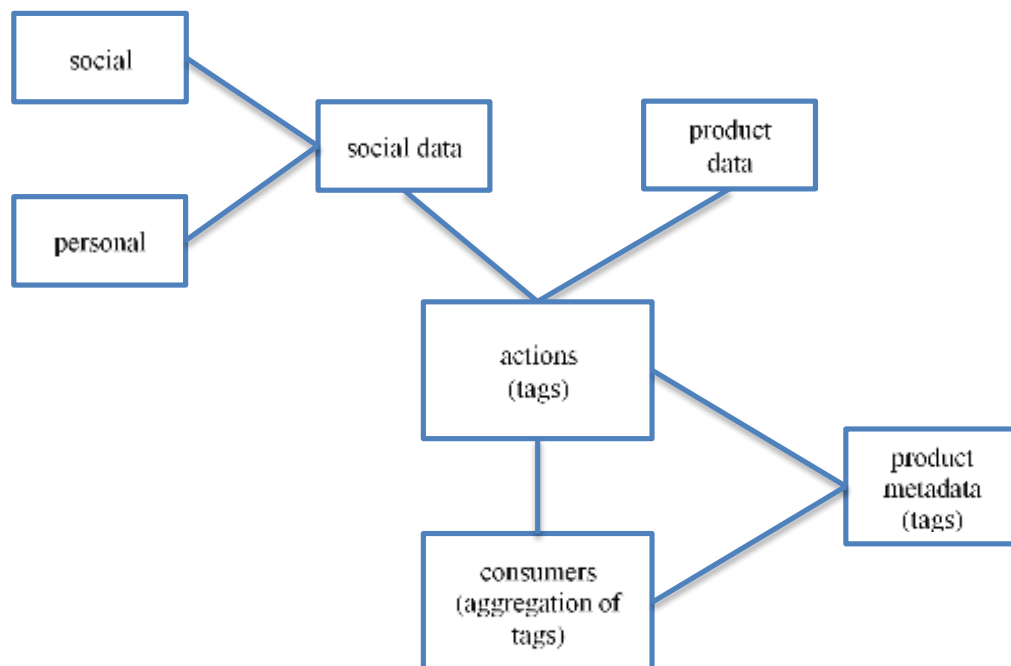


Figure 11: SSP’s system as a signification system.

The scheme illustrates the social shopping system as a signification system. From left to right: the 'social' and the 'personal' get digitized by social media and gathered by the system, which implements it with its own social data production (social data). Social data and product data enter in the system's relational database as *relata* connected by 'tags' that operate as 'sign-function'. New objects are created (*consumers* qua aggregation of product tagged) that enter in relations with their own parts (*product metadata*), generating consumption information.

By correlating data in new ways the system constructs digital objects qua consumers that represent consumption differently. The system's infrastructure reframes representations of users in real time, as potentially *individuated* consumers. In other words, it is the system's technology that individuates users qua consumers. By inferring intention to buy, the system suggests to users the possibility of becoming a consumer. Data structuration refigures relationships among dispersed data, generating possibilities of personalized consumption. That is to say personalization is temporarily bounded to the functioning of a complex assemblage of processes and operations that construct essentially real-time multiple relationships between categorical entities qua consumers and their own intentionality against the background of a computed sociality.

8.1.1 Premises: the social web

Social shopping platforms are essentially based on the usage of social data as it becomes available from SM. Building on social data and on the adoption of SM functionalities, SSP produces its own social data on consumption. Thus the concurrent development of SM adoption, its tantalizing data production, and the development of tools able to gather, read and analyze vast amounts of data underlie the entire enterprise both as socio-cultural discourse and founding assumption. On one hand, it is because of the rhetoric on SM as democratizing tools that a specific method of user participation is diffusing. As seen this socio-cultural discourse views SM as the tool able to promote innovation from the spontaneous emergence of bottom-up practices and approaches (see chapter 2, section 2.2). On the other hand, it is because of the participation of users that it is possible to amass immense volumes of data on user behaviour. I intend as an assumption the belief that by mining huge volumes of social data (users behaviour), more effective methods of organizing consumption (in our case) can be discovered⁵⁸.

The Company, as previously remarked, is a data-driven organization. It doesn't obey production or retail logics. It is informed by a specific logic - the logic of data, and specifically of today's social data deluge. On this account, as we saw in the previous chapter,

⁵⁸ In this sense the production of social data and the assumptions I am referring to, are part of the current debate around the so called 'Big Data' phenomenon (danah boyd & Crawford, 2012). I can only acknowledge here the assumptions and paradigms circulating around the availability of large amounts of users' behavioral data, as far as this research is concerned however it will be clear that the extent to which data can confess (to quote Ronald Coase) is conditioned by the criteria established to correlate them.

it is by reorganizing collected data in a structured manner and by producing its own set of data, that the Company's system imposes its own meaningful version of what social shopping can be. In this section I will remark on what the commonalities are between social shopping platforms and SM, and how they differ from other digital commercial spaces. The point is essential to understanding that these systems are not altering transactions (or the relationship between producers and consumers) but are deconstructing modalities of social communication among which consumption has appealed to the Company as just one of the more commercially viable (see chapter 7, section 7.2).

I believe that the personalization's philosophy adopted by SSP principally differs from recommender systems of commercial enterprises such as Amazon, insofar as it is built on a different logic: it relies on a particular concept of rendering sociality. Social shopping platforms rely on the same logic by which sociality has already been mediated by SM. SSP use SM's social data because they assume it stands for spheres of social communication and of sociality. In turn SSP produce their own social data on consumption on the same basis. SSP are in some sense 'niche SM'. They adopt SM technology and contribute to the institutionalization of SM practice of data production across the web, reinforcing SM power in representing sociality. Commonly, SM claims its own data production to be emergent from social participation and its analytic capabilities the result of mapping social patterns. In reality, SM interposes different layers of mediation between social participation and social data analytics. SM technology produces data and information on an already formalized sociality. Social data ought to be further structured and normalized in order to be usable by the platform's system analytics. Today, the adoption of social media functionalities and the contagion of Facebook social buttons, plug-ins, and API, make an already computed sociality the 'raw data' on which other platforms are flourishing. This computed sociality not only allows the development of businesses and service provisions, it is also the basis for a data 're-socialization' upon which social consumption, in our case, is based. SM's technology diffusion is rapidly escalating in a way that it will be very difficult (and in some ways already is difficult) to pin down what are the distinctive effects of SM's technical mediation of sociality. As social media functionalities get incorporated into the very fabric of the web, what we see is already a mediated sociality becoming the *natural* way of experiencing the social online. On one hand, the computed sociality is experienced online as *natural* (in this case as social fact), even if it is the result of data structuration and computation. On the other, sociality is now experienced and lived through the same logic of its own production. Visibility, participation, and friendship, as we saw in chapter 2, are now experienced through software instruction and SM algorithm logic. To be clear, social experience now adjusts to the logic of data structuration and computation.

The relevant point to be highlighted for our case is the common logic by which SM and SSP are animated. In contrast to commercial spaces, SSP are representing consumption by means of sociality formalization and computation. They intervene on the social space of consumption, regulating the way in which consumers see and relate to each other and to consumption experiences. It is in this sense, I believe, that the changes that SSP promotes are ascribable to the socio-cultural side of consumption. Data reorganization criteria change the knowledge space of consumption as it has been delineated in chapter 3. They change the socio-cultural mechanics that allow individuals and groups to articulate – and be articulated – by a meaningful consumption exchange.

To support the argument concerning the difference between SSP and a common commercial approach I will now refer to the case study narrative. On the platform analyzed, the possibility of shopping is just one of features offered. Retailing is integrated into an artificially constructed social ecosystem, where online sociality is the core element of the site. As we saw at the beginning of the narrative, what users see on the platform are sequences of products ‘tagged’, which are the result of users’ own interaction. In contrast to commercial spaces, therefore, products are displayed because of the social functionalities the platform embeds. Once a product is ‘tagged’, it remains visible on the platform even if out-of-stock (see Chapter 7, section 7.4.4). As one of the interviewees forcefully remarks: “[on the platform] stores will be like apps” (Interview, Company’s founder a #3). Imagining a digital consumption environment, where stores are just applications, clearly points to the subordination of retailing under the social platform’s ecosystem. It is, I believe, a good indication of the criteria under which information is organized. In the midst of data (gathered and produced), the rationale adopted by the system to empower consumption is to mine user behavior, that is the social side of shopping. Experiences of consumption can be personalized because of the social data collected (interaction on social media), and because of the social data produced (interaction on the site).

Before delving into the criteria used to reorganize consumption information, I shall connect the infrastructural work of SM and its production of social data to SSP’s system functioning. The analysis conducted on the SSP system clearly emphasizes the structural role of social data produced by social interaction. In this sense social interaction is the core element that social media and social shopping share. “Over the decoupling between interaction and communication introduced by writing”, social media reintroduce an instrumental form of interaction as mediated by technology (Kallinikos, 2006, p. 25). As seen, sociality on social media is translated into a set of predetermined actions that connect users to objects (see

Chapter 2, section 2.3). These actions are assumed to be meaningful at an aggregate and an individual level. The most famous example is Facebook's 'Likes' social buttons (actions), which connect users with an object (a comment, other users, a brand or a post) and are taken as indicators of something (users' approval, appreciation, gratitude and so on) that 'Likes' abstract into an universal, ambiguous, and all encompassing token: the Like (Bucher, 2012; Gerlitz & Helmond, 2011, 2013). The correlation and computation of particular actions, such as 'Likes' against other variables, is used to measure behavioral patterns of users and groups of users: their activity on the platform. So formalized, social activity gets further incorporated into different computational devices, anticipating what users might like. It is by encoding particular aspects of the social into information tokens that SM transforms social interaction into a measurable information exchange. Furthermore, information tokens so constructed shape a particular kind of social interaction. They foster an already mediated version of the social to form sociality. It is by measuring the interaction produced by its own information tokens that SM reinforces and promotes a determined version of the 'personal' on the web. Unlike commercial or search engine methods of organizing information, SM does not just measure clicks, hits or links. It personalizes its content – that is, it makes it easy for users to browse what might be relevant to them – on the basis of the data computation produced by its programmed social interaction. In this respect, SM has added to the already present tracking devices and profiling techniques, specific tokens (qua actions) that mediate opinions, sentiments, affection, and interests. SM creates sociality as an enactment of behavioral scripts under the form of actions-tokens, such as Facebook Likes, which are assumed to encode – and at the same time construct – social approval, consent or interest (or any other arbitrarily assigned meaning), that can be further aggregated, abstracted and re-contextualized onto other domains.

As the case narrative explains, Facebook Likes are used to suggest connections on the platform between users, or between users and stores. Common Facebook Likes can be used to suggest 'following' because they are supposed to stand for common interests, they are thus the measure of how much similar two (or more) users are in term of taste or preferences. 'Likes' are used to anticipate, and thus construct, similarities of taste by grouping users with common Facebook Likes.

"Perhaps the one thing [physical] stores can offer that most of their digital counterparts can't is the human interaction aspect of shopping. *Being surrounded by likeminded people who share similar tastes and interests.* (...) Ideally [the platform] would be a one-stop destination where you have all your stores. One that is as helpful, insightful and intelligent as the most knowledgeable shop assistant – and [the platform] has thousands more relevant product recommendations than any offline store ever could". (Company's Document #6, Emphasis added).

Sociality is reframed under the rules of 'Likes'. Groups of likeminded users are constructed out of 'following' suggestions, formulated on the basis of SM interaction. In turn, the sociality obtained is thought to be able to foster the "human interaction aspect of shopping" (from the vignette reported above), which is used to compute shopping suggestions.

Facebook created the conditions for online social participation by fueling interaction through 'Likes'. In so doing, this specific social script became the content of Facebook's representation of the social. Counting 'Likes' allows Facebook to capture and measure engagement, user participation, and interests. By letting users participate under precise behavioral scripts, SM frames and constructs social interaction and, at the same time, it sets the standards to qualify sociality through measures. It constructs new forms of social communication that can be enacted, measured and re-socialized. SM has consolidated a socio-digital practice frozen into programmed interaction from which cultural signs and symbols are rapidly emerging, along with norms, rules, habits, values, and new economies. A network of API facilitates data re-contextualization, the portability of user identity, the diffusion of social buttons, and a continuous flow of data streams on user activities (Lovink & Rasch, 2013). Social media create a social web, where sociality is used to personalize web content, establishing a set of measures and standards that organize information and create value.

Let me refer back again to the case analyzed. As seen previously, our shopping platform is a Facebook application. By using Facebook plug-ins, it gains a marketing advantage from the *frictionless sharing* of its own activities back to Facebook, as well as from the possibility of letting users login via Facebook. By logging-in with their Facebook account, users benefit from easy access, and the platform benefits from the ready-made digitalization of users sociality - their friends, their interests, their friends' interest and so on - which have been already encoded on specific data tokens. Sociality has been already digitized, plied by information logic, and can be re-used to promote an immediate personalization of consumption on our shopping platform.

It seems that SM's functionalities and data flows are triggering a consistent compartmentalization, abstraction, and encoding of spheres of sociality into activities (from which SM extracts data-tokens and measures). Particular forms of interaction take place on specific platform typologies, which generate their own data language, giving rise to distinctive socially empowered digital service economies. Social media's main innovation in fact is to have undergirded the web with a specific information language on sociality that encodes social behavior into specific action-signs. The new social data language makes it

possible to measure, organize and structure information under a different logic, that is the logic of personally relevant content that they create and construct. It could probably be stated that social media is rapidly evolving toward the Semantic Web or Web 3.0⁵⁹. Yet, it might also be argued that SM is already a version of the Semantic Web.

In summary, what SM does is to make an encoded version of sociality the very content of its mediation, the matter it purports and transforms. However, it is because of SM's mediation of sociality that sets of connected economic activities (mostly conveyed as the delivery of personal services) are flourishing.

Social shopping platforms are in this sense not only directly related to the same logic of sociality that SM adopts, but they go a step further. To begin with, these platforms are technically built with a very similar functional logic. They are centered on the mediation of sociality as specific social interaction, encoded in specific activities, which become the central conditions of their own performance both as a system and as a socio-digital context. In our case, the activities produced on the platform are the central gears of the system's functioning, as well as the central tenets of the platform's consumption mediation and signification. Those activities become the data-variables, the sign-functions, around which the whole system is structured and its analytic capability is wrapped.

I believe that the narrative of the preceding chapter already casts some doubts on the assumption that volume of data alone could be sufficient to uncover hidden properties of consumption and consumers as well. What the narrative illustrates is the effort made by the Company in structuring a system able to make sense of this data. As the narrative documents, this process requires a huge conceptual effort and a constant tuning between business model (purpose), technical feasibility (choice of software, performance improvement, implementation testing) and the overall constant attention to the Company's resources and to general market opportunities. The case also shows how the Company is actively involved in conceptualizing routes to explore the vast amounts of social data it

⁵⁹ “The idea of the Semantic Web, central to Web 3.0's assumed novelty, was proposed as early as 2001 (Berners-Lee et al., 2006) and arguably was inherent in the design of the web in the early 1990s. At the same time, O'Reilly, the principal originator of the term Web 2.0, has defended it against early attempts to move towards Web 3.0 by claiming that Web 2.0 was itself the Semantic Web (Markoff, 2006; O'Reilly, 2006)” (Allen, 2013, p. 269). Allen lines up an interesting argument, he sustains that Web 2.0 represents a return to the origin: “[it] realigns the trajectory of development with some originally intended path”. I found an interesting similarity between the idea of Web 2.0 as return to some original intended path and Weinberger recount of Berners-Lee's 'Enquire'. The latter is the software that gave rise to the idea of the World Wide Web abandoned because embedded a categorization of links, as much as the Semantic Web embeds a categorization of relations, or as Weinberger says 'smart links – links with metadata'. He continues: “The Semantic Web aims to make the Web smart through the power of metadata, although sometimes in ways that are reminiscent of second-order attempts to categorize the universe” (Weinberger, 2008, pp. 189-198). In this sense social media and web 2.0 present striking similarities with this original project of categorizing all the information in the world.

gathers. This section has reinterpreted the distinctive logic adopted by SM and its mediation of sociality. The next section illustrates the logic adopted by the Company's system to connect different modes of representation under one (database) roof. In what seems a leap toward the Semantic Web, social shopping platforms "contextualize concepts, creating new information" (Barassi & Trere, 2012, p. 1272). Similar to SM, it is by letting user participate along determined action funnels, that social shopping platforms construct the technological conditions for a digitization of consumption, which is set to change consumption's symbolic exchange.

8.2 Grammatization of consumption

This section develops the core themes of the empirical analysis conducted on the Company's infrastructural design and implementation as a system of representation of consumption. Chapter 4 proposed a semiotic approach to information organizing principles, which sees data structuration in a given domain as an exercise of articulating knowledge. These principles are the object of the present explanation. In my view they operationalize the system's logic, conditioning the way in which further knowledge can be created, values can be shared, identities and visions of the world constructed. Social shopping platforms reorganize information about consumption using online social interaction. They have programmed a set of activities that are able to produce the data they need to operate the reorganization of "all information in the world" (Interview, Company's founder a #12).

As the case study illustrates, the system needs to frame, classify and make sense of a complex ecosystem of data (among which social data produced by social media are very relevant). It is the interaction programmed on the platform that responds to the system's need. Interaction is programmed as a set of actions users are enabled to perform. In turn, user behaviors produce data for the system's reordering of consumption information. Data and actions-data are structured and computed by the system, developing personalized routes of shopping.

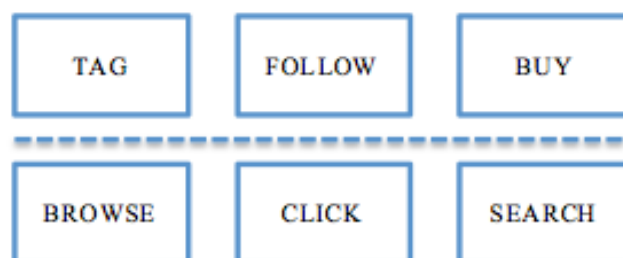


Figure 12: The actions programmed by the platform.

Above the line the group of actions 'tag, follow, and buy' are defined as explicit actions or strong intent data. Below the line, the group of actions defined as softer intent data or implicit actions: 'browse, click, and search' (see chapter 7, Figure 8, p. 130).

The most widespread activity assumed to represent consumption on social shopping platforms is 'tagging'. As we saw previously, 'tagging' involves saving something. By 'tagging' a product image, and by repeating this simple gesture several times, users collect images of products that are stored into their profile. 'Tags' qua product images are then reordered and aggregated by the system and become the content streamed on the platform's main contexts. Thus for users, 'tags' stand for products. It should be considered that 'tagging' is empowered by a bookmarklet system. Bookmarklets are programs that embed different functionalities. Thus when users 'tag' a product from other web sources the bookmarklet's data extraction functionalities ingest product data and metadata in the system (see Chapter 7, section 7.1). Bookmarklets' one-click functionalities display the product-image tagged on the platform, embedding the link to the product's source. Because products are displayed on the platform only when users 'tag' them, the content plan of the platform would commonly be defined as user generated content (UGC). Does this mean that reorganization criteria emerge from user behaviour? If so, what kind of knowledge reorganization do 'tagging' actions enable?

As for social media in general, the common view is that because users are empowered with different performance possibilities (actions on objects), they are not only the producers of the platform content, but also the producers of new kinds of information ordering. Weinberger, for example, compares tags to leaves. In his view, in contrast to a pre-determined tree-like system of classification, a leaves-like 'tags' system empowers a bottom-up approach of ordering information where users are the main actors. "Like faceted classifications, the user is in control of how the data is sorted; unlike faceted systems, the categories are not predetermined by the system's designer" (Weinberger, 2005, p. 19). Therefore, the system apparently reorganizes information on consumption on the basis of the aggregation of user behaviour. That is, new knowledge reorganization criteria emerge by simply analyzing users' behavioural patterns through 'tagging'. Weinberger continues:

"One particular type of ordering has grabbed the spotlight: bottom-up organization that arises from the aggregated behaviour of the individual users doing the tagging. Folksonomies, as they are called, may emerge as users notice which tags are becoming popular, giving them an incentive to prefer those tags over others: (...) Folksonomies may turn out to be another miracle of emergence. Or they could become a tyranny of the majority, a type of tagging colonialism" (Weinberger, 2005, p. 19).

In contrast to this view, the analysis of the reordering logic that 'tagging' promotes does not support the thesis of a bottom-up organization. As previously anticipated, on SSP, user

behavior is mediated, aggregated, mined and computed before it might lead to criteria that function as a 'type of ordering'. User behavior is constantly mediated by technical functionalities that constrain the autonomous emergence of folksonomies, along the whole experience of consumption, with various degree of openness. 'Tagging' is certainly at the basis of the reordering logic. However, what I am at pains to convey is that technology not only seems to mediate 'spontaneous network dynamics', but it also seems to impose its own type of ordering on what it mediates. To begin with I should remark that groups of users do not autonomously aggregate; their clumping is mediated by social data (Facebook Likes) that are used by SSP to suggest 'following'. This represents the first technical layer, a preliminary technical mediation that clashes against the supposed emergent character of folksonomies. Furthermore, in order to use 'tag' data to perform a 'type or reordering', the system needs to execute different technical passages.

I will explain those passages, focusing on the technical functionalities that structure the data reordering through 'tags'. My aim is to remark that actions, such as 'tags', are more than programmed routes of participation. Consistent with the depiction of social media digitization of sociality, I suggest considering them not as a sort of a social routinized interaction (that gets more or less reframed on these platforms), but as a type of social interaction that primarily responds to the enabling condition of technology and to its logic. Actions are a set of requisites that the system needs in order to function. Some actions, such as 'tagging' and 'following', create something new, something that wasn't there before: a layer of technology-empowered practices that disassembles an already established socio-cultural praxis. Once that technology opens consumption space to its mediation, these artificial actions bring new opportunities, as well as challenges, that have to be solved technically. They trigger a cascade of technological operations that constantly refine, mediate, and further abstract user behavior already codified in 'tagging' or 'following'. Before focusing on 'tagging', the most important action, and on its function as bridge between different modes of representation, let me consider how the whole set of actions programmed on the platform articulates social participation as a requisite of the system's functioning.

It shouldn't sound paradoxical at this point to state that consumption on SPP is not buying. Social shopping platforms are purposely designed to empower users with a system of actions. Social consumption is articulated by 'Tagging', 'Following', 'Browsing', 'Clicking', and 'Searching' whereas 'Buying' becomes just one action among the others. The reason lies in the personalization philosophy adopted by the platform. The system doesn't build suggestions on the basis of products bought. Once again this approach considerably

differs from traditional commercial ‘.com’ approach. SSP intervene in restructuring the social space of consumption. SSP action programming creates the conditions through which users can perform a new digital version of consumption. These conditions are *artificial*, in the sense of being technologically enabled. They are the very stuff these platforms construct as mediations of the social side of shopping: precise behavioral funnels, where each activity performed is assumed by the system to be potentially conducive to new and different forms of consumption.

“You have got different things: the inspiration, the click, and the sale that create different *performance funnels*. So you can realize that you are really interested in that kind of products, but then you buy other things” (Interview, Company’s engineer #8).

The vignette reported above describes the platform’s actions: the inspiration ‘tag’, the click, and the ‘buy’ as representing different motivations to consume. For example a user may be inspired by a product (‘tag’ a product) but ‘buy’ another product. The actions programmed thus serve to mediate a set of different motivations preceding the act of buying. Furthermore, the fact that motivations are now fixed into behavioral scripts makes it possible to correlate them. Social data extracted by action correlations allow the system to compute possibilities of alternative connections that can be exploited to create new motivation funnels or suggestions to buy (see chapter 7, section 7.4.4).

I discuss the social implications of motivation-actions-rewards disassembling and computational reassembling in the next chapter (see section 9.1.2). Right now I will pursue the main argument of this section that is the role of action-data as an organizing principle.

As seen in the narrative, the Company has implemented few actions because it assumes that users don’t like to be bothered with too many things to do. As one of the interviewees says: “it is very difficult when you have too many actions typologies to make them unambiguous” (Interview, Company’s founder a #5). The passage is relevant to remarking on the different logic by which such technological operations are informed. The system assumes that ‘tags, search, click and buy’ all stand for an explicit indication of purchase intent. Naturally though, the system does not treat motivation as a semantic construct. It is not action-data content that needs to be disambiguated⁶⁰. Under digital rules, motivation is ambiguous only

⁶⁰ Ambiguity is to be intended here as systemic ambiguity. That is: “something that arises not from conflicted or covertly oppositional intentions but from the jarring and clashing, the mutating modulations of systems and mediations, in which problematic zones of indeterminacy arise because no system is ever truly ‘closed’. (...) It is never quite possible to eradicate the interaction of formal systems with natural languages (...) When systems interact, the patterns of behavior that they exhibit, their potential for mutual misinterpretation, grow from something arising between them, a crack, a fault, or a translation failure, which then becomes a critical factor composing their subsequent internal states and mutual change” (Fuller & Goffey, 2012b, p. 65). As a consequence of the previous definition of ‘systemic ambiguity’, systemic disambiguation is obtained “by the injection of redundancy into one or other of the systems in a relation: the disambiguation of language through the insistence that one word must mean one thing at a time to both partners in a dialogue, for example, or the

insofar its action typology fails to maintain a computable proportion. Ambiguity becomes a systemic construct solved by computing the intent proportion among action typologies, which is the relation between volume and intent strength of the different typologies of data they procure. In the previous chapter figure 9 illustrates the relationship between volume and strength of intent among actions. In particular, it makes it evident that the volume of action data is inversely proportional to the strength of intent. What this relationship indicates is that the only way to reduce the systemic ambiguity of action data under the system's logic is to increase action-data volume by reducing the number of action typology and their 'intent strength'. For a social shopping platform based on social participation, a system exclusively computing the 'buying' action (the action with the higher intent strength) for example, would not be able to amass a huge volume of data. At the same time a system so conceptualized would not make sense either. The intent of buying is pretty clear. It is not the *actual* experience of consumption (buying something) that these systems measure, represent, and are set to learn, but the potentiality of consumption, that is, the computability of the purchase intent. As we have seen, in order to compute motivation the system needs to formalize it in an unambiguous set of actions. Actions are programmed to be constantly performed, their repetition is what increases the system's data production capabilities. External motivators such as offers, rewards and other game elements foster social participation, aiding action performance. By disassembling traditional motivation funnels, SSP technology constructs an artificial social consumption space, introducing something new.

8.2.1 Tagging as a sign-function

I previously affirmed that 'tags' are central in the reorganization of information on consumption. Being technologically enabled actions, 'tags' create new opportunities as well as new challenges. To begin with, it should be remarked that 'tags', as they are constructed, have an intrinsic semantic ambiguity. Users 'tag' images of products, but in contrast to other image tagging systems (i.e. Flickr), users don't label 'tags'. Images are not categorized or described by adjunctive text. Users don't explicitly produce metadata (data about products). A second problem is the problem of scale. At the moment, the platform already has 1.3 million products 'tagged' that get constantly retagged. Both problems are caused and thereafter addressed by technological capabilities. Actions need to be formalized by a strict logic that is forced upon them by database structures and computability.

codification of the end user's relation to a software application through overly explicit instructions" (Fuller & Goffey, 2012b, p. 98). Both elements, as we saw, are encompassed in the action disambiguation programmed by the platform.

Once again, the system treats the ambiguity of ‘tags’ as a problem to be solved by system functionalities. The system presupposes what a ‘tag’ means. It extracts its value by the manner in which it performs within the structure in place. So, as for the set of actions programmed, the modalities of meaning of ‘tags’ are the result of structural relations. ‘Tags’ are read as purchase-intent data. When a product is ‘tagged’ acquire a social metadata. ‘Tags’ in fact are actions imbued with intentionality toward a possible purchase. This intentionality becomes the connection between users and products, thus ‘tags’ socialize products. It is in this sense that ‘tagging’ performs as a sign-function within the system structure. It is used to build relations among the disparate sets of data qua different modes of knowledge, making the system function as a coherent representation of *personal* consumption. ‘Tagging’ connects social data to product data through intention to buy. In turn, as we will see in subsequent sections, this intent to buy becomes product metadata. By constructing and reading intent purchase data as product metadata the system is able to reorganize data on consumption.

By arbitrarily selecting and encoding only a relevant aspect of consumption into specific and abstracted signs (the ‘tag’ qua intent) the infrastructure works as consumption signification system. The system formalizes, simplifies and abstracts consumption around intention. Actions are central in the re-ordering of data within the system. They perform as ‘gates’ between the logic of the system and interaction on the platform. When formalized by the system, actions presuppose meaning. On the contrary when actions signify on the platform, they loosely translate a set of possibilities of meaning, purposely left open and articulated as interactions against the context of a digitally mediated sociality. ‘Tags’ are the result of a double formalization: logical and mathematical (the system needs to qualify data through attributions and computation) and pragmatic as ‘tags’ need to be continuously performed (users needs to act). Eventually the two set of formalizations collapse into a sign-action that is the representation of content for users and the representation of users for the system. Whereas for users ‘tags’ are just product images, for the system ‘tags’ are product attributions. Thus ‘tagging’ becomes the sign-function linking the two levels of the same representation systems. On one hand, it is left open and ‘managed’ by engagement and rewards (digital sociality). On the other, it is closed in a presupposed intent that operates as relational attribution of the product-user dyad in the database. Actions as sign-functions thus allow the system to function as an information system and communication-signification system.

Next, I explain how intent to buy constitutes product metadata. In turn, the aggregation of (intended to buy) products constitutes consumers. What users really generate for the system are sign-functions of their intentional selves that make these selves measurable.

8.2.2 *The logic of relations: aggregation and database functionalities*

This section follows the ‘tag’ token along two other passages of its technological mediation. By focusing on database structuration it explains the data reorganization execution through ‘tags’. ‘Tagging’, a sign arbitrarily assumed to stand for intent to buy on the platform, is abstracted within the system as a sign-function of other signs (users-products data). It acquires a categorical reality (through aggregation) and by being positioned against a structured dataset, it is able to create relative differences that are then made independent by their categorical referent (intent to buy) and by their own relata (users-products data).

Actions as sign-functions *restrict* the field of experience (Desrosières, 2002) to what is assumed to temporally precede purchase: the intention. Let me remark that the fact that ‘tagging’ stands for intention to purchase is presupposed by the system. Once ‘tags’, qua user intent, become available from the platform interaction, they are operationalized as attributions of products. The potential ‘user-product’ relation encoded in ‘tags’ becomes product metadata. Relation, in this case, is to be intended in its mathematical sense. “The mathematical notion of relation is used to model a great number of concepts such as ‘is equal to’, ‘is greater than’, ‘is adjacent to’, ‘is congruent to’, etc” (Mackenzie, 2012, p. 339). As Mackenzie explains, mathematical relations empower a “sheer variety of relations that can be modeled” (*Ibidem*), from the juxtaposition of data a nearly infinite number of relations can thus be generated. But what are the data that get juxtaposed?

Let me add another technical layer at this point. In our case the database is structured under the aggregation principle. As the interviewees remark, aggregation is used to make computation more efficient (cost and time saving) and the system more scalable (Interview, Company’s engineer #8). The case study illustrates how the unity of the whole database system’s aggregation is the product object once it has been ‘tagged’. ‘Tags’ attribute qualities to products, which in turn sustain the system’s computation.

“So rather than trying to increase the attributes too much per object we try to do as much as possible aggregation, the reason is that doing so we can create more data and is faster to query, and it’s probably more flexible as well because you have objects defined through other objects, you can merge connections together” (Interview, Company’s founder a #5).

Desrosières explains ‘the realism of aggregates’. Aggregates make objects real by way of grouping individual records that thus become categorized by the qualities under which they have been aggregated in the first place. Following Desrosières I believe aggregates function

as *agnostic* categories; ensembles of individuals are inscribed to groups that are constructed out of aggregation and endowed with an intrinsic reality. The rationale behind aggregation is “a principle of creating equivalence that allow events to be combined by making them appear as contingent manifestation of a more general cause of a superior level”⁶¹ (Desrosières, 2002, pp. 86-90). Aggregates assign an intrinsic reality to the objects they group because they make visible the attributes under which objects are grouped; a ‘constant cause’ that becomes a real category. I detoured into an explanation of the aggregation principle to refine the argument lined up in previous sections.

The logic under which the system counts conditions what the system formalizes as countable. Because the system aims at computing social consumption and at establishing new ways to consume, it needs to find new ways to extract value qua information on potential consumption from the data at its disposal. Once data is produced and encodes what the system is interested in (intention), the infrastructure assumes intentionality as the principle around which other data and its relations are established. I have previously considered how user behavior on SSP does not emerge autonomously from social participation. It is instead differently mediated by a computed sociality that is constantly ‘re-socialized’ by action and sustained by external motivations (gamification, offers, and rewards). On top of this rather complex artificial process, the system categorizes single occurrences (intention) to form a new computable object (consumer). All in all, the system creates categories of intentional users as *real* objects to which single instances of users (intentions) can be related (in mathematical terms) to construct differences. Let me articulate. Under the aggregation principle, ‘tagging’ as intent to buy becomes the attribute of products that in turn defines users, as well as stores, as *real* categorical objects. Users and stores are consequently defined not by observations, but against the observable constant cause that makes them categorical objects in the first place: the ‘tag’ qua intent.

For example what defines users for the system is the aggregation of products tagged. As one of the Company’s engineers explains: “Users are defined by what they have been saving”, thus “in a way user is nothing more than a store” (Interview, Company’s engineer #9), being both - user and store objects - aggregated products entities. Once products have been tagged and express a set of attributes, they become the basic unit of other objects. In so doing they are defined by the logic of the infrastructure - it is the functioning of the infrastructure (grouping and combinations) that defines objects and their relation. By using the aggregation principle, the system’s computation and its production of differences become much faster

⁶¹ “It is the idea of a constant cause supporting the reality of an object on the basis of the regularity of a statistical series” (Desrosières, 2002, p. 94).

and more efficient. The set of equivalences expressed by ‘tagging’ attributions encoded in products (which are there only insofar as they have been ‘tagged’) can be ascribed to other objects as aggregations of products. Attributes formalized and computed as a set of equivalences are thus relations (in mathematical terms but also in semiotic terms) between objects and their attributes. Properties and values of products become properties and values of users and of stores. Being aggregations of products, both users and stores are defined by measuring how their sets of products express properties in relation to other products. Other products can be modeled under classes of products, categories of products, or other products’ metadata (for instance, price, color, or size). Aggregation, operated on the already present system of relations empowered by ‘tags’, facilitates and multiplies the possibilities of equivalences:

“[the] fact that you follow a person or you re-tag from a person, is not as strong as the product, but it is an indication of the taste you have as well, so *if you measure all the users that you are following, as aggregated products objects* and you see that they are ‘tagging’ mostly accessories, then this would be the indication that you like accessories, so it’s almost the reverse engineering of the reason why you follow them” (Interview, Company’s engineer #9, Emphasis Added).

Those equivalences (computed properties or attributions) produce information on products and users as well. By relying on aggregated objects, the system has even more data to compute and more possibilities of measures able to create suggestions. For example, we saw that popularity (as the measure of how many times a product ‘tagged’ gets ‘re-tagged’) holds for users and stores as well. Popularity can be used to correlate popular users (also called influential) to particular stores (unlocking rewards or statuses for users to foster engagement). Popularity can also be reversed, providing popular items or popular stores for a particular user or group of users (suggesting products or stores to users).

Ultimately: “the conventions of aggregation (...) find their meaning within the framework of the practices they account for” (Desrosières, 2002, p. 101). Naturally these conventions are bounded to the development of determined technologies and knowledge assumptions they embed, but this is exactly my point. Consumption and the relationship constructed out of aggregation hold because of the technology in place. The formalization of knowledge through aggregation is meaningful only toward a certain notion of meaningfulness and only insofar as it allows the system to compute personalized suggestions out of ‘tags’, *efficiently* and by multiplying the possibilities of differences. By using aggregation, extracting value from data, producing information, and computing suggestions is faster and more reliable given that the dataset is larger, the volume is higher and the sample has statistical relevance.

Indeed all of these operations are at the same time empowered and constrained by the functionalities encoded in the database software in use. It should be clear at this point that

value is extracted from data computing differences between products relations. For example, popularity is obtained by relating ‘tagged’ products to ‘tagged’ products categories, or as I stated earlier, it is obtained by computing the relations between categorical objects and their own attributes. Ultimately thus actions (and ‘tags’ qua purchase intent) enter in the construction of measures qua possibilities of consumption.

The relational database functionalities are based on spatial classification and encoding of objects and relations. By way of being encoded into the database structure, actions are thus further mediated and abstracted⁶². Once the structure is in place, the data retrieval can be performed by way of calculating position within the structure only because a system of value attributions is formalized. We saw that ‘tags’ and the action ecosystem are formalized as attributions of products. However they are encoded in specific tables, which are separated from the objects they relate to. Data retrieval is formalized as relations among objects and their attributes, and encoded into other tables. Below the schema used in Chapter 7 to illustrate the Company’s database and its different objects is reported.

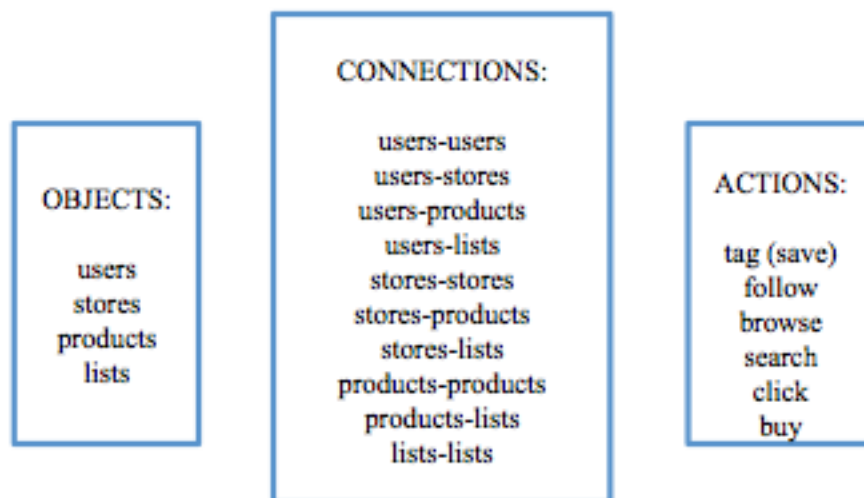


Figure 13: The database’s conceptual structure.

The schema exemplifies the relational database structure as ‘Objects, Connections, and Actions’. The links between objects operated by actions produce connections. For example, the link ‘user-user’ is the result of the ‘following’ action on the platform, which produces the ‘user-user’ connection in the database. The connection ‘user-product’ is the result of ‘tagging’, and so on. Some objects, as we will see, are just the groping of actions on

⁶² “A Relational database consists of a domain, and relations over this domain. This definition takes into account an important distinction. Much as there is a difference between a pipe and a picture of a pipe, (...) there is also a difference between a relation and the name of a relation” (Vardi, Barland, & McMahan, 2006). Relational databases and their functioning are not the object of the present analysis, however it is important to highlight some of their representational functionalities to pin down technological joints in the system logical development. I will try to confine relational database technicalities in footnotes where necessary.

other objects. For example the 'user object' is essentially understood as the collection of product tagged, thus as the grouping of the 'user-product' connections (see chapter 7, figure 5, p. 122).

The Structured Query Language (SQL) of the database computes relations as queries⁶³. Because the classification used is spatial (database) and mathematical (relational algebra) it is exactly by way of positions in a system of equivalence (similarities and difference⁶⁴) that values out of the database language functions⁶⁵ can be extracted - this is the operation that these database systems make, which is mathematical and semiotic⁶⁶. That is to say the standards of SQL are efficiently applied to the infrastructure in place. SQL formalizes data retrieval as computation of objects-attributes relation. Relations can be computed against another object, or an aggregated class of objects, with a subset of categories, or class of objects (sub-queries). What is relevant to remark for our explanation is that the relational model allows a separation between data and their relations⁶⁷. Data becomes structured under standard templates in ways that allow it to become retrievable by using SQL, which encodes their logical relations in a flexible way. Data is independent from its relations, which are stored in different tables (are separated objects) in the database, and multiply every time a call-query is performed. The existence of relations is represented in the relational database model, as encoded in a symbolic tabular form. Once data is encoded into a symbol - in our case actions as relations between products and products categories (or users) - it becomes independent from what it represents (intent). Moreover by work of the system structure, relations become independent even from their own relata (products and users) and from the whole database structure. The built-in flexibility of the database is what allows the back and

⁶³ Once relationships are formalized (named and represented in tables) they can be queried. "A database query is a question to the database that is answered by a relation of some arity-k over the domain of the database". Where arity of a function or operation is the number of arguments or operands the function or operation accepts. The arity of a relation (or predicate) is the dimension of the domain in the corresponding Cartesian product. The question can be thus formulated as a computable function of all the possible subset of all the possible k-tuples over the database domain (Vardi et al., 2006).

⁶⁴ Among the basic operation of relational algebra the three standard set-theoretic binary operations are: union, difference and Cartesian product (together with the two unary operations: projection and selection, they articulate the whole relational algebra expressions).

⁶⁵ Formally a relation is a subset of a Cartesian product of sets (represented as a table with rows and columns where names of the column are attributes of the relation). Relational algebra thus specifies the procedures to query (procedural language) meanwhile SQL is a declarative language, which means it just answer to a users' *what* question, where user doesn't have to specify the how (to compute) it. SQL is a first-order logic based language, it implies its own predicates, syntax and semantic of quantifiers, and its own semantic (as interpretation). In brief it defines relationships as well as its relata every time it performs. The two languages (relational algebra as the procedural and SQL as the declarative) are meant to be equivalent in term of their expressive power (informativeness of query), however there is a trade-off between informativeness (SQL) and efficiency (calculus) with is usually solved by computation implementation (Vardi et al., 2006). A more informal definition of relation would be that "a relation is a way of presenting a multiple by selecting elements from it according to a set of constrains ('SELECT...FROM...WHERE')" (Mackenzie, 2012, p. 348).

⁶⁶ There are here some echoes of Barthes's argument for a future science, which will merge taxonomy and semiotic studies in one discipline, probably it should address database studies (Barthes, 1967). It is also interesting to notice that Codd the engineer who first theorized the relational database model, was taught by a Peirce follower, Arthur Burks a philosopher turned engineer (Castelle, 2013).

⁶⁷ In particular a specific SQL database function 'CREATE VIEW' "derives new relations within and across domains without altering the underlying structure of the database" (Mackenzie, 2012).

forth *inferential analysis* between individuals and their respective regrouping (Desrosières, 2013) that, translated as representation of consumption, means the constant anticipation of differences between individuals qua categorical entities (aggregation of products) and their potential consumption selves (potential purchases).

I hope this further passage is able to clarify some of the points I have tried to illustrate earlier. Actions – ‘tags’ qua intent in particular – as connections between products-users, become independent both from products and from users, they become attributes of products and users. Additionally, given that users are defined as aggregations of products, intent to buy encoded in ‘tags’ becomes the attribution of products, which in turn are aggregated as attributions (and thus definitions) of users. Aggregation creates consumers as computable objects qua categories of socialized products. Computation of values – the set of relational operation the database system allows – creates possibilities of consumption.

It is important to remark that it is because of the manner in which relations are represented in the system’s database that these two passages are possible. Actions, represented as an independent table, enter into new relations every time a query is made, and by doing so new relations as attributions of value (positions within the database structure or differences among objects and their attributes) are created and stored as new independent data entry points. Relations are normalized (made independent), and: “the quality of irreducibility is transferred from the entity described to the categories into which its qualities are organized” (Fuller & Goffey, 2012b, p. 308).

What I care to highlight is that, in a system so constructed, intent data is represented as independent from action data, and action data is represented as independent from user data and product data, offering infinite possibilities of re-combination (new relations). Attributions of values create new possibilities of relations among data that become encoded as other data, which means, if one wanted to stretch the concept a bit, that even without new real-time ingestions of data from the platform (of users, products, and ‘tags’) the system would be able to offer infinite re-combination between users (as aggregated product attributes) and products⁶⁸. These new relations are computed and mediated on the platform as possibilities of consumption (re-combinations between products and product categories qua users), that is suggestions to buy.

This kind of generativity is well known by linguists and semioticians as subsystem or syntax generativity. It corresponds in general terms to the structural notion of value production

⁶⁸ Theoretically one should be able compute the number of possible relations given the combinability of the five basic operations of relational algebra and the domain (number of tuples). Thus is incorrect to state that combinations are infinite.

theorized by structuralist semioticians such as Hjemslev and Barthes (Barthes, 1967). The notion of syntax generativity I am stressing is consistent with previous analysis of relational databases. It is what Mackenzie for example calls ‘multiplication’. Following Badiou he states: “[it] is the difference between an element in a set and a part of a set which is highly generative” (Mackenzie, 2012, p. 342). In a flexible system, it is the possibility of predicating differences⁶⁹ that matters. Database’s functionalities and logic continuously generate possibilities of relations between products and users (qua product aggregation) as multiplication of intentions, this is what constructs new values of consumption. A continuous production of differences as multiples (let’s remember that the differences are not in being but in attributes) makes the system generative but also unstable.

8.2.3 Computation of personalized routes of shopping

The production of differences is a continuous adjustment to both products and user definitions that needs to be stabilized in temporary bounded new forms of consumption, algorithms and measures. The extraction of values by work of database structuration creates informative potential: “the potential gets greater and more realizable as you add metadata [to the data] so that they become ever-smarter leaves. Their potential will increase even as they become no less messy” (Weinberger, 2008, p. 175).

‘Tags’ have added value to the disperse set of data: “the more metadata, the messier and richer the potential. Third order messes reverse entropy, becoming more meaningful as they become messier, with more relationship built in” (*ibidem*). I should remark that ‘tags’ add value, not meaning. I previously affirmed that database structuration is effectively both mathematical and semiotic. The potentiality is obtained by juxtaposing data to metadata. Those relations create more valuable data, or as Weinberger says ‘ever-smarter leaves’, but not meaningful leaves. The trade-off between what Weinberger calls messiness as virtue and intelligibility is well known. The point I would like to make is that the messiness reached by the third order at this point is so messy – to maintain Weinberger’s vocabulary – that only a complex set of procedures (relations, computations of relations as value-measures, and algorithms) can unbundle some of the messiness to communicate something personally meaningful to users.

Coming back to the platform, I believe that measures (suggestions) and algorithms (the ordered display of information) solve this problem, becoming the referents of new possibilities of consumption. They are temporary meaningful routes orienting possible future consumption. Technologically-implemented computation, measures and algorithms as

⁶⁹ Rules as mathematical and logical relations are instructions of production of differences and production of differences at the same time.

suggestions solve a problem, which has been caused by the over-production of differences between computable objects (consumers) and their own attributes (intentions to buy). What I am saying is that agglutinating possibilities of consumption into more or less sophisticated sequences of operations becomes a necessity because of the growth and generativity of the database work.

Algorithms as ordering devices of knowledge are the consequence of a layered rendering of social consumption into digital bits. Something that has to be there because of the complex bundle of operations, functionalities and mediation have reduced heterogeneous modes of elaboration of knowledge to the production of an infinite, unstable, and undifferentiated data-scape. “What one wants is only a function, a combinatorial variant of what is already on offer, the corporation deciding in advance the reality within which the consumer will then exercise his or her sovereignty” (Fuller & Goffey, 2012b, p. 267). As the present analysis has explained, an algorithm is just the last passage of a very complex (and hidden) infrastructure made of layers of computation and assemblages of data into new data-objects.

In our case for example, all of the measures constructed (such as popular, influential, similar) are executed by data aggregation, database functionalities and statistical or mathematical computation. These measures are then used to permutate suggestions across the whole platform experience. Personalization becomes a holistic process, which is aided and sustained by social data and the production of new computable objects. Let me twist the argument: the platform is constructed personally across contexts because of the social interaction created and programmed. Social interaction, as we saw, is articulated in fixed actions, empowered by the presence of a digital sociality, and suggested by measures that become indications of product relevance (such as trending, popular). On top of this layered personal experience sits the algorithm’s programmed order. What the algorithm does is re-order information of an already personal experience. Personal because it integrates digital sociality with computationally executed suggestions.

The system is constructed on aggregation and computation, which empower the platform to continuously suggest other users or stores (categorical objects as we saw), as differences in attributions (intent data). As the case narrative explained the mechanics of suggestion based on people and stores is not only more efficient, flexible, and reliable than suggestions about products, but also less prone to be judged as wrong by consumers (see chapter 7, section 7.6). Knowledge is reorganized under quantitative principles, that is, data is classified on the basis of its measurement potential. By aggregating data, the system produces new computable objects that exist because of the computational practices the system allows. This quantitative (or agnostic as I previously remarked) qualification plays on a real human

cognitive habit: the “grosso modo” definition of something (Desrosières, 2002). I will pick up and discuss these issues in the next chapter. In this moment I believe it is relevant to follow the function of ‘tags’ in the formalization of a measurable consumption. ‘Tags’ and ‘retags’ are the basis upon which a new representation of consumption reality is constructed. As one of the founders says: “The retag thing is really hard to cheat (...) so it’s a good measure of the reality of something, or of the expertise on something” (Interview, Company’s founder b #19).

I hope the argument I have developed so far is able to shed light on the mechanics of ‘tags’ qua reality. ‘Tags’ become the “constant cause” (Desrosières, 2002), able to be observed and computed. In so doing ‘tags’ surface behavioral patterns that attest to the reality of the things observed (‘tags’). Having an observable and measureable constant cause means that the system is able to *automate* measurement, thus to solve the issue of scale and efficiency.

The retag measurement is also the basis for the functioning of the social algorithm which automatically orders the display of information on the ‘Trending’ context of the platform, as well as its search box functionality. By merging popular measures, time scale and by reading product categories⁷⁰ the algorithm automatically learns how to display what is trending (this month, this week, or now), and learns how to parse results segmented by product category⁷¹.

By computing possible routes among the data so parsed, and gaining an almost complete automation of ways of doing it, measures (‘popular’ in particular) will provide an output both to the platform (the ‘My feed’ section on the platform) and to the algorithm. In turn, by encompassing measures, timeframe and product categorization the algorithm will provide another measure qua category of consumption (‘Trending’), automatically learning how to perfect the process until it requires little or no human intervention.

Recently, the role of algorithms has received a lot of attention (Gillespie, 2013). What this analysis seems to suggest is that they execute a fundamental role, nonetheless their function remains subordinated to what I previously described as data-work: data formalization, data structuration and database generativity. In this case what algorithms do is to temporarily freeze potentialities. I believe that their function is essentially temporal. By adding a time-context, algorithms are able to constantly produce snapshots of data potentialities, rendering intelligible the messiness of data production as a real-time temporary bounded order.

⁷⁰ The algorithm reads keywords in the source page description of the product tagged.

⁷¹ As we saw in Chapter 7, Section 7.6.1, only little human intervention is needed just to set the error threshold on a couple of points (gender and out-of-stock) then the algorithm will be unsupervised, meaning that it will be completely automatic, suggesting adjustments in sections that were previously developed with human contributions.

Algorithms execute the last passage of the system's information reordering: they integrate social data and intent to buy with time.

As the last vignette reported above remarks, to 're-tag is a good measure of the reality of something'. Previous sections have explained how measurements and computations rest on a complex logic of assumptions on data, data, their structure and functionalities - that allows a particular way of framing reality as measuring that is conveyed as more effective, easy, objective, efficient, (sometimes true)⁷² than reality as we know it.

8.3 Conclusion

This chapter has sought to disentangle some of the complexities behind the social shopping platforms' technological infrastructure. In particular the aim has been to uncover the logic behind its re-organization of information. I have tried to depict what are the elements of consumption that get grammaticized, mediated and re-assembled out of data, explaining how aggregation enters into the assemblage of new categories of consumption (and consumers).

As seen through the analysis, consumers are assembled in real time as new computable objects that, by entering into relations with their own attributes, provide possibilities of personal suggestions. Against the backdrop of an already computed sociality where friends, taste, and interests are ready-made portable digital assemblages, computable consumers rise as agnostic categorical entities, as aggregates of products. Interaction is purposely determined so as to produce predicates: measurable attributions that will sustain relations between users and products. The constant production of differences, or multiplication of attributes, which constructs potential consumers on the fly, emerges from data growth and structuration. Measures and algorithms confer a temporary bounded order to a highly generative system of differences.

Next, I refine the main argument emerging from the analysis, discussing how the technological organization of consumption knowledge space might impact on the refiguring of the relations between the 'social' and the 'personal'.

⁷² All of the adjectives listed have emerged from the interviews coding work as way of defining social shopping.

9 Discussion

Introduction

This chapter discusses how the system's logic, analyzed in the previous chapter, structures the online experience of consumption. To be clear, while chapter 8 was elaborated on empirical evidence following structural semiotic principles, this chapter offers the results of the main themes that emerged from the unfolding of themes against the known categories of consumption: 'search and discovery, selection, and experience'. As highlighted in chapter 6, corpus construction is a methodological tool that aids the continuous feedback between data selection and analysis. In this sense the two analytical chapters build upon each other and have to be considered as a unitary reading of the interpretation of empirical findings.

The argument I outline in what follows is that computational logic intervenes within the knowledge space of consumption. The logic of symbolic exchange exposed in chapter 3 and 5 is silently substituted, presupposed or represented by the system's logic of computation. This in turn cascades into the manner in which different consumption mechanics are articulated online. The computational logic of the system reorganizes the space inhabited by symbols and meaning. Recalling how Zwick and Cayla defined marketing - a way of making products meaning visible (Zwick & Cayla, 2011) – I discuss how online, making things visible is the function of database operations and computation. They make products visible and thus popular restructuring the manner in which consumption might be experienced.

Specifically the chapter considers how the processes of indexing, aggregation, consumer assembly, and modulation of differences intervene in representing the three moments of "discovery, selection, and experience" conceptualized in chapter 5.

The first section contends that because of the technological disassembling of consumption, the different stages of 'search and discovery, selection, and experience' are no longer integral or constitutive of a socio-cultural process of consumption. Computed sociality and programmed social interaction propose to users an experience of consumption values, of others, and of their selves that is meant to be personally relevant. SSP mediate 'the social' through the layered work of social data and computation, presuppose socio-cultural consumption conventions, and produce new 'individualities'. SSP construct a personal context of consumption based on social data formalization and computation. They make facets of social life increasingly technical, that is, technologically regulated. Following these considerations, each of the sections - 'Assisted Discovery', 'Selection' and 'Experience' - highlights how SSP renders parts of consumption technical by presupposing, substituting, or

representing encrusted practices, social values, and consumer roles. It also discusses the main implications of computational consumption for marketing practice and consumer self-concept articulation.

Ultimately I argue, personalization is not just an output of algorithm functioning. It is rather the manner in which the system logic becomes differently socialized up to the point at which it might be perceived as the natural way to behave. All in all, by working as media, SSP make the computational logic of consumption transparent, and for this very reason able to grow into new mythologies, cultural discourses, and social needs to which consumer society, with its organizations, practices, and roles will have to adjust.

9.1 The personalized architecture of computational consumption

The platform studied has been defined as the “Internet department store” (see Chapter 7, section 7.1). It is for this reason that at the beginning of the case narrative I metaphorically juxtaposed what social shopping platforms are doing to the innovation introduced by the advent of the modern shopping malls. Benjamin, in ‘The Arcades Project’, defines the specificities of department stores as follows: “the customers perceive themselves as a mass, they are confronted with an assortment of goods, they take in all the floors at a glance” (Benjamin & Tiedemann, 1999, p. 60). Benjamin points out how the consumption experience is transfixed by the criteria used to organize the space of the shopping mall, which are in turn conditioned by technological developments and commercial ends. I exposed the main system functionalities and underlying data organizing criteria in the preceding chapter. Here I shall discuss how those criteria are transfixing consumer experience of consumption and of their selves. Social shopping platforms transpose consumption as a personalized experience, one where users need to perceive themselves as individuals. The digital consumer is the centre around which the assortment of “momentary come-ons, myriad of displays of ephemera, (...) ghosts of material things” (*ivi*, p. 55) is displayed on the fly. The assortment of information represents, quite literally, infinite sequences, which are ordered - and thus experienced - under the criteria adopted by the system’s functioning.

Having defined consumption as a space of knowledge (chapter 3), it seems appropriate to discuss how the technological infrastructure explored in the preceding chapters helps building an architecture of consumption with strong personalized elements. The logic of computation embedded in the system’s infrastructure produces a non-material and flexible consumption architecture that is structured by functionalities and behavioural templates. Social interaction is programmed along the behavioural corridors of such architecture as

determined motivation-action-reward paths connecting users to objects (products, stores, other users). I take the image of architecture of consumption as signifying the technologically constructed contexts that bound consumers to experience socio-cultural values, other consumers, and their selves in certain ways and not in others. The behavioural corridors programmed by the platform architecture become the way in which consumption can be experienced and made sense of. Consequently they become the way in which users can make sense of their consumer selves.

As seen in chapter 3, consumer self-perception conditions brand adoption and retention. Self-perception is directly implicated in consumer decision-making and, by the same token, it is continuously re-articulated in consumption processes. I contend that the manner in which the system logic presupposes the online experience of consumption is different from the traditional symbolic logic upon which consumption was structured (see chapter 3, section 3.1). As seen in chapter 4, the complete set of presuppositions entitled by the message (also called pragmatics of signification) is what structures the ‘roles’ that individuals will inhabit. So, as the structure and content of a book presupposes an ideal reader, the system’s architecture presupposes an ideal consumer. It should thus be clear that I am not discussing the actual consumer response to system logic, but I rather interpret and analyze how the system expects consumers to behave. The semiotic approach I rely on is validated by the system’s practice. The system reads data on actual consumer response, produces data analytics for retailers and marketers and modifies its own platform’s templates under its own presuppositions (data extracted from interaction programmed under a specific logic)⁷³. In so doing the system actualizes – at least in part – the very logic under which it operates.

I believe that personalization should be understood as the result of the very operations these SM platforms perform as *infrastructures of sociality*. Personalization operates on much wider premises than classical commercial recommendation systems. Meanwhile commercial spaces crunch transaction data on the basis of which they compute similarity scores and recommend products (à la Amazon), our platform produces a personal context based on

⁷³ I am referring to the practices used by our Company that are also widely adopted by its own typology of tech enterprises. These tech startups are commonly known as being reliant on a “close collaboration” with alpha or beta users (Bhidé, 2008). User engagement is certainly maintained constant and assessed continuously to aid both hypothesis testing and ‘taste’ testing (how the system presupposes user performance of taste). For instance our Company intensively uses A/B testing to evaluate every variation it has to perform on the different platform’s contexts (see Chapter 7, section 7.4). For data driven organizations gathering continuous feedbacks from users behaviour is a matter of data collection, based predominantly on a typology of users (the most engaged-responder to system’s presupposition, commonly known as ‘ α users’) and on determined data extraction or monitoring technologies. In this sense as I argued, studying the system’s presuppositions on consumer behaviour is not driven only by this study’s semiotic approach but it is also rooted in the feedback loop practices between presuppositions and actual user response.

social data. By relying on social data and SM's functionalities SSP represent an advance toward the emergence of a new social and personalized web. As seen, this means that facets of social life become technical, that is, technologically regulated. Personal information is the result of SSP structural work and technological operations that are taken as something (information) standing for something else (consumers) against the background of previously established socio-cultural consumption conventions. The manner in which the system operates in the reordering of knowledge on consumption changes the modalities of consumption representation. By formalizing consumers in different ways (as aggregations of socialized products), SSP as a system of signification embeds assumptions on consumption and consumers that mediate the access to consumption experience. By re-contextualizing sociality under the rules of 'tags', the system builds an architecture of consumption that presupposes, and at the same time alters, the 'formerly indispensable' intended as the socio-cultural conventions of consumption practices and consumer roles which have been summarized in the analytical framework of consumption (first row). In short, SSP mediate 'the social' through the layered work of social data and computation, presuppose socio-cultural consumption conventions, and produce new 'individualities'. This in turn conditions marketing practices and the experience that consumers make of their selves.

CONSUMPTION EXPERIENCE <i>Analytical Framework</i>	SEARCH & DISCOVERY		SELECTION		EXPERIENCE	
OFF-LINE CONSUMERS' BEHAVIOR MODELS	<i>Social</i> Groups belonging (W-o-m) (Word-of-Mouth) Bottom-up Trickle down/ Across Models (social interaction)	<i>Cultural</i> Advertising Editorials Consumption of cultural products (<i>films, photo, video, stories, myths</i>) Knowledge/ brand awareness	<i>Social</i> Imitation/ Differentiation Model (social negotiation)	<i>Cultural</i> Adoption of lifestyle models/ Appropriation of symbolic goods/ Possession (ownership) Choice as exclusion of alternatives	<i>Social</i> Role internalization Group belonging Social identity Social reward	<i>Cultural</i> Aspirational consumer behaviour Hedonistic behaviour Pleasure seeking behaviour Active evaluation (<i>bricolage/ Identification/ Disidentification</i>)
MCKINSEY ONLINE CONSUMER DECISION JOURNEY	Initial consideration / active evaluation (researching potential purchases)		Closure / buying act		Post-purchase/ Consumers' evaluation (experience advocacy and active evaluation)	
SOCIAL MEDIA	Browsing menus or lists of suggested items Browsing menus of predefined categories Browsing friends or followed profiles' lists		Liking (others signs of consensus) Adding: click through images/ editorials or others' profiles/lists of items/ collections Posting and sharing (automated features) across platforms Faux buying Buying		Immediate reward as others' liking/ re-posting on their profile/ Comments Conversation (engagement) Sharing Profile performance (social interaction) Buying	
SYSTEM LOGIC	Indexing (tagged products) Database structuration		Performance funnels (motivation-action-reward)		Aggregation (consumers as assemblages of intentions – tags)	

	Measures (popular, influential) and algorithm		
SOCIAL SHOPPING PLATFORM	ASSISTED DISCOVERY <i>My Feed</i> context: products ordered under similarity rules <i>Trending</i> context: products ordered under popularity rules (retags)	SELECTION Tagging Following Clicking Searching Buying	EXPERIENCE <i>Curation</i> Profile performance List performance <i>Reward</i> Retags Followers (number of connections) <i>Gamification</i> Offers and competitions

Table 8: The analytical framework of consumption revisited.

The last two rows (in grey) add the system's functionalities and operations and SSP affordances of consumption.

When I elaborated the framework in chapter 5 the intention was to open consumption processes to analysis. The framework was used as an analytical device that partitioned the wholeness of consumption as a process into three large chunks. In the SSP analyzed, the wholeness of consumption is disassembled into sequences of actions. These actions, differently combined, are reassembled into one or the other moment of consumption by the layered work of the system in place. The system builds a non-material and flexible architecture on the fly for each and every user every time anew. Real time action sequences variously recombined along the different contexts of platform produce new forms of 'search and discovery, selection, and experience' in different gradations, combinations, and intensity. As seen, the system disassembles consumption by programming actions, and sustains their performance with external motivation: the presence of others, gamification, offers, and rewards. On top of this, the flexible, semi-open, responsive architecture of consumption *expects* users to behave in certain ways.

The system formalizes, selects, and abstracts consumption as data produced by actions. By disassembling consumption, technology opens *spaces* of innovation. Those *potential spaces* become partially closed by the system's computational rendering of consumption: that is how the system *anticipates* consumers' personal intention (measures and algorithms). The *potentiality* of consumption these systems produce in other words is only partially reassembled into actual consumption. Extant research on SM already attested to how these unstable platforms offer 'incomplete solutions' to on-going problems (Bucher, 2012). The intrinsic instability proper of a system continuously anticipating potential consumption might act in a number of ways. The study conducted suggests that it is assimilated by consumption experience: consumption online becomes a never-closed process that might or might not lead to any buying. Sequences of actions do coalesce into one or the other phase of 'search and discovery, selection and experience' but the absence of a 'conclusive' purchase moment makes their boundaries shifting, meaning unstable, and thus their interrelation fluctuating.

All in all, the experience of consumption, bounded to contexts and symbolic meaning (for example social conventions and consumption categories), formed a holistic process, a cognitive journey, as it were, on individual's appearance in society. The online consumption experience becomes anticipated by personal suggestions and bolstered by a highly responsive environment. The architecture of consumption shapes a new cognitive journey, which is purposely maintained as semi-open by computation. Its parts remain separated in terms of cognition, because the *connections* among them are flexibly and diachronically constructed as a result of computation and, at the same time, to further enhance the computability of consumption.

As distinct from traditional settings, consumption intended as the learning process about oneself on SSP makes sense through technological signification. Online, the information system implemented connects the three moments of 'discovery, selection and experience' through actions, read by the system as data, and encoded in the system database as standing for intentions. The connections between 'search and discovery, selection, and experience' are independent from user experience or learning. For example 'tagging' something is not consequential to 'clicking' the same thing, or 'following' the user who has 'tagged' it. It pertains to the mediating property of the system – database structuration, correlation, and aggregation - to compute the data produced by the different actions into something new (information), that in so doing *might* acquire value (informativeness) and suggest a *different* version of consumption.

This is the innovative architecture that computational consumption builds. It mitigates the connection between 'sociality', the socio-cultural conventions of consumption, and individual experience and creates a shifting architecture where technologically mediated paths constantly match users to objects (products, others, their selves) anticipating what consumers might be. Technology disjoints a socio-cognitive process such as consumption, which is now re-assembled by parts made independent from each other and from the whole. Assemblages are wholes where parts are not constituted by each other. Each part is self-subsistent and the relations the parts enter to define the assemblage are ones of exteriority (DeLanda, 2006). These relations of exteriority are now articulated by the technological regime of consumption. Thus the emergence of new consumption possibilities, the 'personal' that SSP enable for consumers and retailers as well, is the result of emergent properties of the technological system rather than being emergent property of relations between the 'social' and the 'personal'. Each of the following sections discusses the main consequence of computational consumption for marketing and consumer self-articulation.

9.1.1 Assisted Discovery

SSP are ‘assisted discovery’ platforms (Chapter 7, sections 7.1 and 7.6). Assisted discovery is perhaps the most relevant innovation brought about by new technologies of social shopping⁷⁴. What was a socio-cultural process bounded to media, socio-cultural contexts, and physical limitations is completely revolutionized online. Discovery has been traditionally linked to communication and media production and distribution of information about products. Expert advice, marketing and communication strategies have effectively articulated the distribution of lifestyles and, as a consequence, have conditioned the discovery of goods across social strata. In turn, groups and individuals appropriated lifestyles and taste as collective and individual identities. As Diana Crane puts it: “precise ways of consuming arise when specific identities are in place” (Crane, 1999a, p. 17). This means that particular social configurations, evolving around values promoted by traditional fashion institutions, play a key role in shaping and orienting individual consumption.

In today’s internet landscape, the dispersed presence of commercial ‘.com’ and the proliferation of information on fashion (on webzines, blogs, and social media) have contributed to composing an overcrowded habitat. Information abundance and the lack of relevant criteria in ordering information have made it very difficult to find new and interesting products or brands, or simply to browse fashion information easily. As seen in chapter 7 (section 7.1) this is exactly the problem our platform is set to solve. As the founders say “there is a need for the consolidation of retailers”, and “retailing as it is today is completely done” (Interview, Company’s founder a #3). The platform thus proposes its services as a ‘shop all in one place destination’ promoting itself as the ‘Internet department store’.

“Imagine discovering new clothes, furniture, books, shoes and more from people you trust and admire, in real-time. [The platform is], like having an army of personal shoppers doing the work for you” (Company’s document #2)

The power of likeminded people (and in general the presence of others) in enhancing trust mechanisms is well known (see Chapter 3, section 3.2.1 and Chapter 5, section 5.1.1). It is exactly what the platform’s technology leverages to construct a social space of shopping. The overabundance of information is ordered under criteria that are conveyed as emergent from social interaction. Dispersed product information cannot be reorganized without considering the social element intrinsic in fashion consumption. Thus SSP provide the solution to this problem by constructing a system able to reorganize product data for each

⁷⁴ Given that search on our platform is afforded maintaining the traditional web functionalities (the presence of a search box on the main context), and only recently implemented with products categorization, I have chosen to focus only on the mechanics of ‘assisted discovery’ which is instead the main innovation the platform promotes (see also Chapter 7, section 7.6).

individual user under social ‘rules’.

In contrast to brand or marketer strategies that seek to aggregate individuals around shared values or lifestyles, SSP technology actively mediates the reordering of groups with data indexing, measures, and computation.

On SSP, social group configurations are technological mediated. Social groups’ structuration is mediated by common Facebook Likes, suggested by computing similarity scores, or generated by users’ ‘autonomous aggregation’. ‘Similarity’ computed on the basis of ‘Facebook Likes’ or suggested on the basis of ‘common product tags’ constructs standard rules of aggregation that can be learned and automated (Alaimo, 2013). In reality, SSP systems mediate ‘autonomous aggregation’ as well. Effectively SSP are based on interest graph networks (likeminded people with whom we share our taste). However it remains questionable to what extent aggregation of users can be considered as latent (in *potentia*) or *autonomous* when, as we saw, user experience is personalized since the very first access. Since the login phase users are suggested other users or stores to follow.

Indeed discovery of new products is aided by the presence and activities of the ‘social’. However as the argument outlined demonstrates, the social on SM and SSP is a computable social (actions performed to make the social computable) and computed social. A technical social, as van Dijck would say (van Dijck, 2013), because particular aspects of sociality are selected, encoded, and re-socialized under the logic of the system. A social that is, in our case, already filtered under ‘likes’, ‘follows’ or ‘tags’ and the ecosystem of actions our platform proposes as social participation. The same logic holds true for social network structures and network properties such as ‘influential’, ‘popular’, or ‘similar’. In the case analyzed (and in SM in general) they seem rather to emerge from functionalities and computational rules of information reordering. In other words, groups are, at least partially, technologically structured. It is relevant to remark that these ‘social network properties’ emerging from technological structuration enter into the computation of product diffusion.

We saw how influential users or evangelists (as they are called by marketers) have been involved in marketing campaigns for a long time. Their power in influencing other users and speeding up trends has been widely instrumentalized online and offline. As seen in the preceding chapter, ‘influential’ as well as ‘popular’ are outputs of database structuration. The database produces ‘influential’ and ‘popular’ under the same set of standard operations. It means that the two measures are computationally equivalent, both are outputs of ‘retags’ computation. On the platform products are socialized, that is, they have social attributes. Let me recall that product data is made social by using ‘intention’ encoded in ‘tags’ as product

metadata. It is on this account that user intentions become an attribute of products. Users are instead defined as aggregations of (socialized) products. The computation of product's social attributes ('tags') makes social network properties computationally equivalent to product (network) properties. Products and users are defined as popular by computing their 're-tags' against other variables (for instance network size, or product category). Under this criterion of ordering, products are displayed on the platform's main contexts. Discovery is afforded as browsing the products ordered under different measures. It is indexing and computation of 'tags' that makes products (as well as users) visible in the first place and thus what makes them popular or influential. Moreover their visibility is adjusted differently for each and every user by computing the 'following' proxy. In the 'My Feed' context, users see only the products tagged by their own network (user 'followed') ordered under popularity criteria. Users thus discover new products on the basis of their own group structure and its properties. Social diffusion is 'still' based on group structuration and influencers, although the way in which they are established no longer depends solely on socio-cultural mechanics. Indexing, data structuration, and computation create the conditions for assisted discovery to happen.

To summarize the main points, groups of likeminded users on SSP are structured under 'common Facebook Likes' rules, or under 'similarity' rules (Alaimo, 2013). Even when they are 'user generated' they are subjected to the platform's initial personalization that consists of 'following' suggestions. On top of this, the use of measures produced by data structuration establishes popular products and influential users and shapes product visibility and diffusion across the platform's different contexts. Thus, although the properties are measures and computation outputs, they represent (they function as) social categories of consumption. That is, they stand for a social attribute of relevance.

As seen, databases are semiotic spaces based on spatial and numerical encoding (see chapter 4, section 4.2.2 and chapter 8, section 8.2.2). Drawing from Rose (1991), Kallinikos explains how numbers act as semiotic devices along different dimensions (Kallinikos, 1995). For example, they standardize different objects by reducing their intrinsic qualities along one simple and countable feature. In this sense, as Muniesa points out, measurement collapses the distance between the 'what' and the 'how' (Muniesa, 2011). Measures (the how) and the entities measured (the what) are not distinguishable any more. They have been reduced to a metric that, because is countable, also qualifies the nature of the thing counted. Even if the qualification of objects amounts simply to a matter of "more or less", the implicit idea of value qua order is nonetheless transposed and displayed on the platform as an order qua value. A value produced out of the semiotic logic of numbers (order) becomes the

orderly display of social products. Albeit this order qua value is the output of structural and combinatorial capabilities of the system, by being re-socialized it acquires a social connotation. It is what confers relevance to products for social and individual discovery. The dual role of number – ordering and valuing – Adkins and Lury argue, can be established and reinforced by reference to an external measure (a unit of measurement, a value, or an index), or else ordering and valuing can be brought together not by external references but by the variety of combinations, the logical relations numbers afford (Adkins & Lury, 2012). As already seen, ‘tagging’ becomes the index or the sign-function, as I called it, around which social data and product data are structured and made sense of. Ordering and valuing collapse into a common socio-cognitive space – a space of mediation – where what is ordered and how it is ordered, instead of being articulated by symbols and meaning, pertains to the information system’s work. Adjunctively, given that products are socialized on the basis of ‘tags’, index and measures collapse also the computable (and cognitive) distance between users and products. The system treats them as objects, correlates them with ‘tags’ as indexes, and applies the same set of measures to them.

This ordering qua relevance that conditions diffusion patterns of products, and thus discovery, bears implications for individual appropriation of social values in consumption settings and, thereafter, for marketing practices. To begin with, the indexical principle of the system’s infrastructure perhaps makes clear why the platform’s business can be structured as a two-sided market (see Chapter 7, section 7.3). The indexing system in place, which constructs the computational equivalence of measures, allows for the provision of personalized services of products to users and of users to retailers and brands. Promoted placement becomes the marketing operationalization of personalization. “We match relevant user to stores based on demographic, social connections and interest” (Company’s document #5).

On this account, the platform can provide an infinite variety of personalized services to retailers. For example, one of the possible strategies is to compute an ‘influential user’ for each store. This means the possibility of constructing tailored offers or rewards to particular users or even to diversify the product pricing policy based on user influence. In general it means that the platform has the capability to diversify product placement by relying on its computation of sociality. Thus is because of the system’s specific functionalities that the platform tailors its marketing services. In turn retailers and brands buy spaces, articulate their own marketing strategies, and place their products. There is a considerable possibility that in doing so marketers and retailers will reinforce technological group structuring, the emergence of a computed sociality, and the emergence of technological patterns of product

diffusion.

The argument outlined invites to reconsider the role of SSP and SM. Rather than act as simple substitutes of traditional marketers' role as mediators, they seem to disrupt the market. In some sense the platform is a market, it owns data and the technology able to establish (compute) diffusion patterns of products. By ordering product visibility and by regulating user interaction, the platform manages user attention and engagement. In short the platform owns the means by which a SM market can be structured. 'Tags' and 'following' become the rules of the game (Carr, 2008). As the Company's founders anticipate: "In a way if you were massive then you would become, honestly not a substitute to retailers but you can really control what they do" (Interview, Company's founder b #11). In Chapter 7 section 7.5, I provided an account of the price strategy adopted by the Company. The section served to describe how new service economies are developed from data analytics and information production. Similar to Google's 'hits' or Facebook's 'Likes' the SSP studied implements its own abstract tokens around which the system performs computation and produces the conditions for consumption. It is because of this 'index' or token that the system develops measures and the Company establishes its marketing services and prices them. SM and SSP are structuring markets and establishing economies based on their own data and information. They produce, sustain, and price abstract tokens that stand for facets of social communication and consumption.

To conclude this section, I shall connect 'assisted discovery' to the main argument already exposed - the refiguring of social and individual relations. Social influence has always been a powerful force in shaping the diffusion of products and conditioning the discovery of new ones. Social identities, coagulated around values, have been key in influencing personal motivation. As distinct from traditional processes by means of which social influences are articulated, SSP technology intervenes and modulates the space between social and individual evaluation of products. Technology attenuates the links between social values and personal motivation by producing a personalized context, whereby social participation is mediated by actions and product relevance (socially attributed) is mediated by measures. Socio-cultural mechanics articulating the links between consumer motivations and socio-cultural values go through technological mediation. The consequences might be manifested for example in the introduction of ranking systems or of 'objective relevance criteria' for products. As variously remarked, personalization is a two-way process. This means that consumers might be subjected to the same set of standards and measures the system computes for products.

In chapter 3 (section 3.1) I reviewed some of the social mechanisms through which

marketing and media institutions have leveraged socio-cultural values to bring products to the market. They have created social consumption categories around which groups have coagulated. It is within this symbolic space of mediation, so far constituted by language and symbols, that indexes, measures and standards are acquiring growing importance.

Let me recall that whenever the distance between different meaning agencies increases it is likely to assist the emergence of ‘specialized mythologies’ (Appadurai, 1988). In consumption settings this technological property of mediation – the links that technology attenuates – and consequent possible ‘mythologies’ such as objective relevance criteria, might condition consumer aspirations and desires. That is, the link between personal identities and social values might be subjected to the logic and mythologies produced by technological systems.

9.1.2 Selection

Selection has always been part of an integral process of learning in socio-cultural contexts but in the end equated with the act of buying. SSP disrupt the equation and the process behind it. Online, users are empowered with many actions qua selection possibilities among which ‘buying’ is becoming less and less important.

In section 5.1.2 I framed ‘Selection’ affordances on SSP as representations of choice. As a matter of fact the whole ecosystem of actions programmed by the platform is assumed to be in some way a selective activity. ‘Tagging’, ‘following’, ‘clicking’, ‘buying’ and as we saw, even ‘searching’, are taken to be user selection activities. The variety of ‘selective options’ is the backbone of the system’s *grammatization* of consumption (see chapter 8, section 8.3). It is the abstracted, constant, and recursive exercise of choosing translated as action, formalized as data, and combined against other variables and measures that makes intention to buy (motivation) computable. This explains the fact that users are endowed with greater variation to perform their deliberative self. A set of actions connecting users to objects (other users, products, stores, or lists) is taken to stand for users’ multiform intentionality (purchase intent data).

The reason for the system’s implementation of an ecosystem of selective actions derives from the personalization philosophy adopted. SSP personalization is constructed by rendering sociality as computable. In the case of consumption what the system is set to learn is the nexus between motivation and action. In order to extract and maximize value from social data produced, the system needs to disassemble traditional behavioral funnels (connections between motivations, actions and rewards). On the ‘spaces’ created by the

parsing of social consumption, the system data work and computation intervenes by proposing alternative ways to connect users to objects (personalized information). The interviewees on more than one occasion conspicuously named those alternative ways as ‘shortcuts’, linking consumers to stores. The system is concerned with social shopping, that is, it establishes an *index* (actions) through which social intentionality can be attributed to products (and other objects) and thus measured as social relevance. Measures and algorithms reconstitute the sociality so computed as personalized experience: permutating suggestions, undergirding information ordering, and reacting to user participation.

Because of this, users are empowered with a wider range of actions, variability that enlarges - and at the same time restricts - the space of choice representation. Choice represented as selection is not only ‘liberated’ from social contexts and material constraints but the personalized architecture of consumption also makes it “funnier, easier and faster than before” (Company’s document #2). Undoubtedly, the exercise of selecting resonates with the traditional consumer-chooser psychological and cultural scripts promoted by consumerism. Selection encodes the performance of taste, the script by which consumers exhibit choosing as act of self-individuation against sociality (others, social values and norms). Selection as choice thus plays on the consolidated convention of choosing translating consumption - as a manner of expressing one-self - into technologically empowered *performance funnels*.

“If you look at any social shopping site, the really successful ones are the ones that tap into our *narcissistic values*. And it’s *this social aspect* that gives [the platform] its unique selling point. Being able to *share your tastes* with the wider world, to inspire and be inspired by your peers is what sets the site apart from many of its competitors. And the option to share *not just what you’ve bought, but also what you’d like to buy* [tags] is a hugely popular aspect of the [platforms’] offering. People just eat that up. They absolutely love it.” (Company’s document #6, Emphasis Added)

Technology here mediates affective responses, intentions, desires and motivation to buy. The actions programmed not only disassemble, select, and encode a whole set of individual internal motivations to consumption, but they also stand for the ‘social’ response to individual behavior. Others’ ‘retags’, ‘follows’ and ‘shares’ reinforce the responsiveness of the personal architecture. The vignette reported above illustrates the point. The association between ‘narcissistic values – the social – and sharing’ (from the vignette reported above) is not new. But on social shopping platforms it gets disassembled and reassembled by the system’s rules. Sharing, as action, has acquired new mechanics, and thus new modalities of meanings. It can be managed by linking it with immediate positive reward tokens (‘Likes’ or ‘retags’). In short, the connections between motivation-action-reward become manageable, reproducible, and computable. Numerical abstraction in this context becomes the means by

which the formal (in the sense of data) and the empirical (in the sense of behaviour) are reconnected on the platform (Agre, 1997).

The conditions, referents, and context of users' self-deliberative exercise that SSP propose are remarkably different. Selection is performed against an already personalized architecture where 'assisted discovery' modulates what users see and select. As seen, suggestions and the mediated presence of others compose a structured 'order qua value' meaningfulness that invests every object. On top of this, the platform has in place a determined set of action modalities and a set of external motivations ('reaction' modalities) used to maintain constant user engagement. The more users select, the more the context responds. There is a constant and recursive feedback loop between user selection and system anticipation, mediation, and responsiveness. The variability of actions, the constant presence of the social, and the responsiveness of the personalized architecture create the conditions for a new experience of self-expression. Selection is disassembled in a variety of actions, which are re-combined in artificial *performance funnels* representing traditional motivation-action-reward funnels (see chapter 7, section 7.4.4).

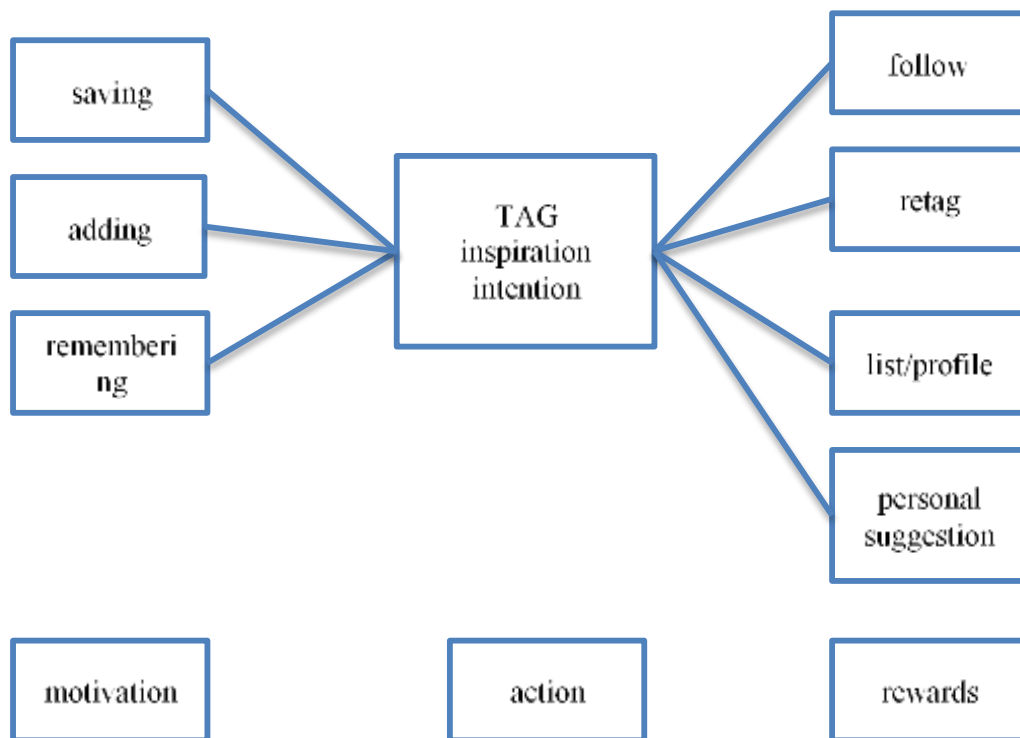


Figure 14: The performance funnel of 'tagging'

For example (see figure 14), the motivation behind the selective option of 'tagging' is variously acknowledged as the willingness of 'saving', 'adding' or 'remembering'

something. ‘Tagging’ is commonly indicated as the inspiration behind the purchase. ‘Tagging’ performance is fuelled by the social recognition triggered when a product ‘tagged’ gets ‘retagged’, when a user becomes influential or when is ‘followed’ by other users. The motivation to ‘tag’ is further reinforced by the presence of profiles and lists that, as we will see in details in the next section, activates self-enhancement mechanisms.

I stated earlier that choice so represented also restricts the field of experience of users. A usual line of argument at this point would discuss technological representation of choice qua selection as restraining the autonomy of users in consumption decision-making. I believe that a problem so posed neither takes into account the traditional ‘autonomy’ endowed to individuals in consumption settings, nor the fact that being a ‘consumer’ is a social role, shaped by social values and norms, that individuals inhabit.

I would rather raise the point that choice represented as selection implies a new socio-cognitive form of choice as accumulation and combination that derives directly from the system logic and suggests a new social role of being a consumer online. A set of selection activities funnelled into motivation-action-reward acquires the autonomy to stand for consumption in itself. The resulting socio-cognitive forms of action create the expected consumer behaviour. I argued earlier (chapter 4, section 4.2) that the mediating properties of technologies might have been read as ‘sorting, storing and selecting’ elements from a continuum, and as the consequent production of new social forms. As Elena Esposito explains, forms are the ‘visible’ results of the work of media (Esposito, 2004a). In the case of written language for example the ‘materiality’ of the medium and the fixity of words has conferred autonomy to texts from contexts and authors, with the consequent creation of the social role of the ‘reader’ as interpreter. It is in this sense that, as Simmel points out, forms may possess an autonomous force that, even if conferred by medium work, acts at the same level of reality. As he explains: “forms may possess a force that seems to adhere to them *independent* of their users. Forms create *expectations* as well as coherence” (Simmel quoted in Espeland & Stevens, 1998, p. 322). The recursivity of choice as selection, its abstractness, and its responsive context, represents the technological “performance funnels” as autonomous. An artificial constructed behavioural path of information selection is able to stand for consumption and to be perceived as if it were natural. On this account, the expectation of consumer role changes and the technological capabilities of selection are enacted as the *natural* way of being a consumer. Selection, as it is embedded in the artificial performance funnels, makes sense against the constant anticipation of personal choice and against the ordered variety of others choice. Consumers select – thus exercise their

deliberative selves - with respect to a new set of references: suggestions, computed sociality, socialized products, and a given set of functionalities.

The layered work of personalization - the technological processes and operation it entails - on one hand attenuates the links between the social (values and conventions) and the personal (attitudes and behaviours). On the other it produces *forms* of individuality – ways of asserting one’s own individuality - that adhere to users with the naturalness of social facts. What I am at pains to convey is that technology as a medium intervenes in substituting *codes* and consequently in changing roles. Personalization produces new subjectivities out of the representation (which might very well mean substitution or presupposition) that technological functionalities and forms juxtapose to social values and norms. In chapter 3 I proposed the following definition of values: “how the majority is expected to behave and how the individual responds and reacts to more generalized social norms” (Evans et al., 2009, p. 285). Choice as self-deliberation is strictly connected to a determined notion of self-deliberative individuality that is silently being substituted by the forms and resultant attitudes and behaviours that personalization presupposes. In this sense, personalization can be read as infrastructure of sociality. The personalized experience SSP architecture entails is the background upon which traditional links between sociality and individuality get disassembled and reassembled under technological rules, functions and forms. Consumers choose products, other users, and stores that ‘represent themselves’ (Interview, Company’s founder b #7) computationally instead of symbolically. Their choices are cumulated, structured, indexed, and correlated with variables and the result of these constant reciprocal adjustments between individuals and technological systems is an *individual* history, represented by a longitudinal tracking code that is accessible only as data within a structure.

“we will know that user x has bought product y and in turn we will know that is female, that is 15 years old and lives in London. We will actually know even her Facebook ID, so we know her friend as well. So we basically identify that specific purchase against the whole user history. That means we know what you have been looking at, which stores are you following, if you tend to buy the products that you clicked on in the first place, or if you tend to buy product from stores you are following, and also from where did you arrive at the purchase” (Interview, Company’s founder b #16).

Measures, algorithms and standard templates become the ‘flickering signifiers’ (Hayles, 1999, p. 25) of consumer identification. Personalized information modulates it as anticipation and expectation of an implicit appropriate behaviour that is represented and stored as data within a system. The current technological shift reconfigures the conventions, practices, and meanings constructed around a determined notion of choice as individuation. The forms of experience SSP propose are technological, they intervene in shaping new technological driven ways of individuation, producing something that was not there before.

To summarize, what was an act of self-individuation against sociality (others and social values) through choice as an exclusion of alternatives, is now rewritten by the variability and combinability of actions as construed by the system. Representation of choice is played out of anticipation, recursions, and actions that are constantly closed up by further anticipations. A continuous modulation of selection and the responsiveness of the platform, shortens the time-decision and, at the same time, enlarges the field of selection. As a result, users are caught in a constant enactment of selection that rarely leads to a conclusive actual choice (buying).

9.1.3 Experience

Experience here is indented as the set of evaluative mechanics that consumers use to make sense of the consumption act (experience perception and evaluation) and thus of their consumer selves. “People consume in ways that are consistent with their sense of self” (Sirgy, 1982). Self-perception and evaluation and modalities of consumption have been intrinsically bounded to each other. A satisfactory experience of consumption leads to self-enhancement that is key in motivating brand adoption and retention. So far, brand managers and marketers have articulated consumers’ satisfaction by attributing (or attaching) determined values to products. By disengaging meaning and categories of meanings from a cultural sphere and re-engaging them into the marketplace, marketers have fuelled personal desires as well as their satisfaction. By recognizing the satisfaction of their own desires through consumption – the possession, disposition, or use of goods – consumers have had the possibility of modulating their sense of self (self-concepts).

Personal satisfaction was filtered by the rigidity of ‘taxa’ and operationalized by meaning and meaning agencies. Whereas previously the articulation between social values and individual desires was operated through language and symbols and negotiated in social settings, on SSP it follows data structuration and computation rules.

I believe that the changes brought about SSP to experience perception and evaluation can be understood as the consequence of the knowledge reorganizing principles upon which data structuration is based. Not only does the way in which data structuration operates filter down to shaping consumption experience, but also some of its intrinsic characteristics contribute to new modalities of self-evaluation. The logic of data ordering and the instability of data structuring reshape the manner by which consumers are supposed to experience consumption and their selves.

SSP operates by introducing a reordering of knowledge in general against particular instances that are based on agnostic categories instead of semantic categories. The shift is remarkable because it conditions a different modality of mediation between categorical entities and singularities that structure the knowledge space of consumption in new and non-trivial ways. Semantic categories remain implicit but they do not serve as ‘distributors’ of knowledge. Categories of meaning, in other words, do not act as referents of consumption technological signification. As previously explained, the system of signification presupposes its own interpretants (socio-cultural consumption conventions) but is articulated by technological code and logic. Let me recall that the explicit aim of the platform studied is to innovate social consumption using data. The Company is a data driven organization. It constructs “more effective” ways of being consumer based on “data instead of content” (see Chapter 7 and 8). The Company’s aim is purposely set to innovate not only the categorical semantic organization of consumption knowledge, but also the modalities in which this knowledge has been operationalized by meaning agencies. By founding its operations on data instead of content, the Company not only innovates knowledge consumption categories, but it also revolutionizes roles, institutions, and expertise connected to the access, operationalization, and distribution of knowledge. The section ‘Assisted Discovery’ offers an example of how this ‘revolution’ might take place, focusing on marketing services.

Before detailing the way in which consumer self-evaluation might be affected, let me recall how the system constructs its categories. The system’s knowledge consumption reorganization revolves around agnostic categorical entities: consumers as data assemblies of socialized products. Consumer assemblage is the categorical entity resulting from intention (‘tags’) computation. ‘Tagging’, as we saw, encodes intention. The system produces intention as occurrence, a new form of consumption contingency. ‘Tags’ qua intention become what Lyotard calls the “index of exchangeability”, which demarcates the final result of a complex process of “data mining, simulation and decoding” (Lyotard, 1977, p. 20). It is the aggregation principle that operates by reducing disparate entities under a common metric. The nature and relation of entities is based on different knowledge ordering criteria: ‘tags’ encoding ‘intentions’ become the singularities (contingencies or occurrences as I have called them) and consumers qua ‘assemblages of intentions’ are general categories constructed on the basis of computation of ‘tags’.

The computationally constructed singular and general entities transcend semantic and qualitative differences. Their relationship is based on an index, the ‘tag’, and performed by mathematical operations. A ‘tag’ qua intention becomes the sign, a standard *functive* that modulates the relation between categorical entities and the parts by which these entities are

made by *anticipating* variance. Espeland and Stevens define this process as commensuration, that is: “transformation of different qualities into a common metric”. They continue: “when commensuration is used in decision making, the procedure for deriving this metric amounts to aggregation” (1998, p. 316).

“Commensuration can be understood as a system for discarding information and organising what remains into new *forms*. In abstracting and reducing information the link between what is represented and the empirical world is obscured and uncertainty is absorbed. Everyday experience, practical reasoning, and empathetic identification become increasingly irrelevant bases for judgment as context is stripped away and *relationship become more abstractedly represented by numbers*” (Espeland & Stevens, 1998, p. 316).

Personalization is the computation of singularities (intentions) that suggests consumer *individuation*. It is afforded by reducing sociality and individuals to a data format, which is then normalized by database structuration against a constructed common metric. The outputs of database functionalities are new entities constructed out of aggregation that individuate consumers as such. Aggregation makes contingencies real (social facts). The database has the calculus power to continuously refigure the relation between a given category and its parts by *inferring* (Desrosières, 2013). The system infrastructure makes *real* the anticipation from singularity to generality and back. In our case it constructs as real the anticipation from the categorical entity of assembled consumer to the singularity of intention and back. For example categories constructed out of computation translate *comparison* into *commensuration*. This means that instead of relating separate modes of being (status or statuses) they relate differences in degrees, that is variation, modulation of a given state (the difference between entities and their parts). Consumption knowledge operationalized under these modalities, might lead to different possibilities of social imitation and differentiation. Under the rule of data and indexes ‘social intentions’ and ‘intentional self’ might not be distinguishable in terms of qualities anymore. Their difference becomes a matter of ‘more or less’ and it would arguably condition user perceptions up to the point at which users - between their selves and others - see no *difference* but just *variance*. Agnostic categorical reordering plays out on human cognitive habits. The ‘more or less’ qualification of differences between categorical entities becomes the ‘grosso modo’ definition of something. As Desrosières explains:

“The process of addition caused local singularities to disappear and cause a new object of a more general order to appear; eliminating the nonessential contingencies. This leap from one level to another is reflected in expression such as ‘when all is said and done’ or ‘all things considered’” (Desrosières, 2002, p. 72, Emphasis added).

This means that ‘supra categories’ become the only referent to evaluate contingencies. In our case categorical entities such as consumers or stores become the only way to experience and

evaluate consumption. We find evidence of this remarkable change in the way the system suggests. An interviewee explains the difference in ‘psychological terms’:

“It is more pure psychology I think, it’s easier to get it right with the store or a person than the product, because if I recommend you one product, you either like it or you don’t. It’s like black and white, whereas if I recommend you a person or a store, it’s more difficult to judge the suggestion. Let’s say I’m getting a recommendation of following you, I’m going to check your profile and I will see that in your profile there is a majority of things that I like and few things that I don’t like, I cannot judge you, I will judge your products, but the suggestion will be accepted” (Interview, Company’s founder a #6).

Once more, there is a correspondence between system functionalities and modalities of experience. Agnostic categorical principles make differences of a minor order disappear. The system suggests stores and consumers because both are assemblages of products, thus product categories. Consumer judgement is played out as the ‘majority of things’, ‘all things considered’, ‘grosso modo’, or ‘variance’. The aim of personalization becomes not so much to recommend products that you will probably like, but to surprise you with insights that might reveal your taste, behaviour, and inspirational sources. This might signal a considerable difference in marketing philosophy as self-governing practice. Computational consumption instead of suggesting a self-evaluation as comparison (of one-self to others through semantic categories or qualities), suggests here a self-evaluation as commensuration (of one-self to others through assemblages or quantities).

To sum up, consumer experience of consumption is disassembled by technological innovation and translated as the relation between assemblages of intentions (stores, others, one-self) and intention occurrences. In turn, this artificial relation, technologically enabled, gets formalized by data and computed *ad infinitum* by way of accumulation, variation, and multiplication constantly anticipating possible future intentions.

The second point I shall make regards how technology presupposes the experience that consumers make of their selves. I believe that the principle of ‘curation’ provides the means by which the system’s intrinsic instability is constantly contrasted and reinforced at the same time. SSP are social curation platforms. In contrast to the diffused view that UGC is the central and distinguishing feature of social media, I believe that SM and SSP rather thrive on content organization, that is ‘curation’. The distinction is not trivial and bears profound consequences as regards the possibilities that SM affords for consumer self-perception and evaluation. Curation comes from the Latin verb *curare*, which means to arrange, take care of, command, or cure. The main platform functionalities through which consumers perceive their selves are profiles and lists.

“The list again has been created for a few reasons, was not necessarily needed, but as it started to grow it was a good way of motivating people to keep adding products and organizing them a little bit more.

(...) *Users put always an extra care in trying to have like a nice profile.* You have many users who tag something and then go to their profile and *adjust* their selection on the basis of what they have been tagging. (...) They really care about their profile. *At the end of the day list is an amazing way of letting people tell stories*" (Interview, Company's founder b #16, Emphasis Added).

Lists, wish-lists, profiles, and scrapbooks are all indexing devices that respond to a profound need of mastering and control (Crewe, 2011; Weinberger, 2008; Woodward, 2011). Users continuously 'adjust', 'organize', and put 'extra care' into their profile. As Eco says: "Our minds were altered less by books than by index slips" (Eco & McEwen, 2009). This means that indexes are powerful categorization devices through which knowledge is not only accessible but also actionable. In the absence of stable referents and semantic 'taxa' or socio-cultural categories, it seems that constant reorganization is increasingly the only way to produce sense or "to let people tell stories" (vignette above). SSP self-indexing functionalities counteract the instability of social contexts and references. Computational consumption presupposes the nature of its objects as already given. In turn, cognition and action indications are now focused on the constant effort to maintain an order, through the use of specific functionalities: profiles, lists, and other ordering devices.

"Restoring order touches a sense of property that is deeper – or perhaps just older – than our need to tidy up. Orderliness is the way things are supposed to be" (Weinberger, 2008, p. 174).

It is a powerful call to the 'sense of order' (Gombrich, 1984) that binds consumers to their profiles, lists, wish lists and other self-indexing functionalities. Curating and controlling their sequences of tags, consumers order their selves. Tagging thus not only is the 'crux of the matter' (Lyotard, 1977), the index around which technological mediation and signification is organized, but also becomes the index around which consumers *modulate* their selves. The symbolic in consumption domain concedes its place to the indexicality of numbers and tokens of database structuration. As previous studies have shown, it is at this point that lists substitute narratives.

"The counterplace to the domus is the urban official residence (the *arkheion*) where houses are not homes but archives, offices, and agencies and where the transmission of culture has become a matter not of narratives but of *lists*. (...) The domicile is the cipher for an age of archivization where memory is the domain of the technical media, of signs, of more or less systematic storage, or, in Lyotard's phrase, 'the anonymity of archives'" (Spieker, 2008, p. xiii).

As Jack Goody has shown, lists are peculiar devices that differ from narratives because they are (i) discontinuous, (ii) they establish boundaries in clear-cut beginning and definitive ends, (iii) they bring greater visibility to categories, (iv) they are simple, and (v) abstracts (Goody, 1977). Lists, he believes, transform thoughts. Because they are purposeful information organization devices, stripped from actions and narration flows, lists have the power to influence the organization of social life and cognitive systems alike. Likewise, Eco sustains that lists *want* to make infinity comprehensible by creating order (Eco & McEwen,

2009). Ordering is controlling, it maintains the preoccupation of ordering, thus at the same time, maintains disorder. The intrinsic paradox of a continuous self-indexation is that the more individuals curate their selves – listing their own intentions - the more they confront the impossibility of establishing “clear-cut beginning or definitive ends” (Goody, 1977). Once again, it seems that listing mirrors the instability of a system that doesn’t represent difference between one’s self and others but just a never-ending *variance* that need to be constantly ordered and controlled.

9.2 Conclusion

This chapter has discussed the technological unbundling of the knowledge space of consumption. Technologies of SSP afford new forms of knowledge, modalities of meaning that are disjointed, displayed on the fly, and re-assembled under the rules of ‘clicks’ and ‘tags’. I have here discussed how computational logic of SSP impacts on discovery, selection, and experience of consumption.

The indexing, aggregation, and assembling of data construct computationally empowered and personalized pathways to possible consumption, anticipating consumer intentions. The result of these complex technological operations is what I call ‘computational consumption’: a new, constantly shifting, and *personalized* way of making sense of one’s self and others through technology. The space of knowledge of consumption is not changed as much by the personal suggestions in place as it is by the fact that consumption is redefined under a different logic and experienced as if it were *natural*. Subjectivities in consumption settings are not anymore the result of learning one’s own place against social norms and values but become a modulation of intentions against a technologically assembled self. Consumers are anticipated by the inference of their intentions resulting from the juxtaposition of data *categorical entities* and data *contingencies*. A knowledge conundrum such as finding a standard version of ‘individuality’ is obtained by rendering ‘sociality’ and ‘individuality’ relations computable under a common index. By doing so, SSP infrastructure offers a constant, updated, and variable version of consumer intention, the new ‘data-currency’ of online social systems of shopping.

Differently from the symbolic logic of consumption reviewed in chapter 3, the analysis suggests that on SSP value is produced under the rules of the system’s database. Albeit value qua order is the result of numerical abstraction, on the platform it is re-socialized as relevance, acquiring the *naturalness* of a social fact.

10 Conclusion

Introduction

This chapter concludes the dissertation and offers a summary of the main points emerging from the research's analysis and discussion. This research has adopted a different approach to Social Media and the personalization it enables. In what follows, I discuss the contributions of the thesis and the limitations of the approach adopted with respect to (10.1) the IS literature and the nascent SM literature and, (10.2) the consumption and marketing literature. In both of the sections I conclude by opening scenarios for possible future research.

10.1 Infrastructures of the social

The logic of information production has been the main focus of this dissertation. By exposing functionalities and operations of a social shopping platform's infrastructure the research has analyzed and discussed the technological change of sociality qua consumption. Such an approach is both one of the main strengths and limitations of the present dissertation.

This research has analyzed and theorized the consumer-self without investigating actual consumer choice and behavior. It advocates major changes in the symbolic logic of consumption by analyzing the production of information and how it expects consumers to behave. This research did not take into account actual experience of consumption, or online social interaction. It has rather considered how the set of presuppositions entitled by personal information in social shopping domains regulates the access to consumption experience. Although the lack of such understanding might be considered as the main limitation of this dissertation it also constitutes its main contribution.

By framing technology as active participant in the change of consumption representation this research has sought to contribute to the IS literature. The focus on the structuring and shaping nature of technology positions the empirical findings and theoretical constructs this research proposes within the tradition of the social study of ICT. In particular, the dissertation is part of 'The Information Growth and Internet Research' project (TIGAIR) and prosecutes aims and objectives of the program. Established in 2006 at the Information Systems and Innovation Group (ISIG) of the Department of Management at LSE, the program studies social and institutional implications of information growth and dissemination. It is against this broader theoretical background that this research has placed

the analysis of SM's production of social data and its implications for consumption domains. I have shown how the logic of data structuration and information production advances toward the emergence of a new data driven re-organization of sociality qua consumption. Increasingly, facets of social life become technical and bounded to be experienced along artificially constructed paths. Personalization, I have argued, is not a matter of algorithmic suggestions. It is rather the way in which the system's logic formalizes sociality and infers individualities. Ultimately, technology intervenes within the social space of consumption representing consumption knowledge and regulating modalities of access to consumption knowledge (that is, experience).

The research aimed at unpacking the logic of SM mediation and its impact on established ways of organizing consumption. It has conceptually framed SM's mediating capabilities in semiotic terms that have allowed the analysis and interpretation of SM's infrastructure as a system of signification. The semiotic approach has been integral to the development of the dissertation and impacted the research at various levels. The use of semiotics has a longstanding tradition in IS field (see, for example Faiclough, Jessop, & Sayer, 2003; Kallinikos, 1993; Mingers & Willcocks, 2014). This research continues within this tradition by applying semiotics to the study of the information infrastructure of SM. Data and data operations increasingly determine *how* things are made visible. It is around that 'how' that this research has sought to theorize. By relying on the tripartite notion of sign, semiotics has been used to analyze the 'personal' and the 'social' as distinct meaning agencies involved in the technological mediation of consumption. In so doing, this research's approach contributes to the nascent SM literature. How can we understand the SM production of a 'personal' web without unpacking its formalization and computation of sociality? Understanding *how* technological regimes of signification mediate the relation between the 'social' and the 'personal' is essential, and constitutes the core argument of this dissertation. Thus the tripartite notion of sign has provided the basis for constructing a firm theoretical scaffolding to analyze and explain how technological operations (sign and system of sign) intervene in producing a new personal (object) on the grounds of previously established social norms (interpretant).

By theorizing on the changes brought about by the technological mediation of a particular facet of social reality such as consumption this research contributes with a middle-range conceptualization of SM's structuring properties (Merton, 2012). In contrast to the majority of contributions on SM that looks at what happens at the interface level, this research has sought to reconnect the technological property of mediation of SM to its signification capabilities, engaging with the underlying technological mechanisms that exert causal force

upon the representation of consumption possibilities and consumer roles. Drawing on such a theoretical scaffolding, the research has provided a conceptual framework to unpack the functionalities and operations of SM for shopping. The three moments of consumption exposed in the conceptual framework provided the categories on the basis of which I performed the empirical analysis. The qualitative research strategy and the single case study design are cyclical procedures that permit the study of complex and changing phenomena under conditions in which theory, empirical evidence and conceptual refinement inform one another. Against this methodological commitment, corpus construction has been adopted to disentangle unknown relevant events from their own context. By applying the external categories of “search and discovery, selection, and experience” to the empirical evidence, the functioning of corpus construction has aided the categorization and analysis of the unknown variables of technological mediation. Corpus construction performed as “immanent structure” (Barthes, 1967), favoring the interplay between similarities and differences within a system, it provided criteria of relevance to typify the phenomenon under study. The analogy between the methodological tool used and the very operations the SM’s systems perform is close. By disassembling and reassembling compact phenomena under different rules, structure produces value and, by doing so, it emerges as structure, allowing the analysis of its own logic.

From a traditional methodological point of view, the single case study has limitations with respect to the generalization of the findings if the case is framed (often implicitly) in terms of sample of a population. But a case study is never a sample. It enables analytical generalization, that is, the possibility to ascend from the empirical findings to theoretical statements. To ensure the analytical generalizability of the findings I relied on a set of quality criteria and good practices (Yin, 2009). Some of the good practices followed during the empirical analysis are (i) the communicative validations, at the end of the pilot phase and of the case study first and second narrative, (ii) the use of documents such as case study protocol and database, (iii) the extensive use of vignettes from the gathered materials to reach a ‘thick description’ of the case.

The findings advance the understanding of how the production of personal information changes the organization of consumption knowledge and, consequently, the manner in which knowledge can be accessed. By unpacking the logic of SSP mediation, the case contributed to the explanation of some of the operations that general SM perform as infrastructures of the social. The research has pointed out how SM functionalities and data operations are gradually undergirding the web, increasingly making large portions of social communication, symbolic exchanges mechanisms, and cultural processes technical.

The main argument of this dissertation has been that SM as system of signification creates the artificial conditions where relations between the social and the personal are refigured. Technology attenuates existing links (for instance social conventions or cultural norms) and operates as a transformative space. From the study of the logic of selecting, framing and reordering of the SM system for shopping emerged two main findings. The first is that in contrast to mainstream SM research, the empirical analysis has shown that bottom-up processes (such as folksonomies or user participation) do not generate firm criteria of ordering. The logic of the system analyzed, by imposing its own ordering criteria on data and data objects, translates a set of systemic relations onto platform's functionalities. In short the system's logic mediates the manner in which objects (users, stores, product, and lists) might connect (through tagging, clicking, following, buying, searching) to other objects, on the basis of the data infrastructure in place. In so doing it conditions user's possibilities of interaction and experience. On top of this grammatization and translation of social consumption into data and data relations the system produces measures, algorithms and ordering devices.

Undoubtedly, SM opens new possibilities of participation that in turn bring the emergence of new ordering criteria. The vast amount of social data produced by SM's interaction surely offers new insight on different aspects of social life. However, as this research has shown, technology intervenes in every passage of the mediation of the social into data. The selecting, storing and sorting properties exhibited by the systems operate actively in representing social life. The analysis suggests that new criteria of ordering are constrained by technical functionalities, computational refinements, databases languages, and their embedded formal logic. This argument questions the traditional "empowerment" rhetoric of social media. Discourses on user co-creation of value, bottom-up processes, transparent evaluation (and the like), I believe, do not take adequate consideration of the relevant fact that technology intervenes within the space previously regulated by social conventions or cultural norms. In online artificially constructed social contexts, where socio-cultural referents fade, the logic of the system surges as main vehicle of signification. To put it simply, the role (and power) of experts is not 'equally' redistributed to the many. Instead system logic and functionalities negotiate expertise (relevance of information) under a different logic, empowering users with possibilities and constraints that are created by a technologically bounded order.

The analysis performed demonstrates how the re-organization of knowledge is now operated not by assigning classes, or models, or types. The system is not concerned with meaning or

categories of meaning. ‘Tags’, actions, and consumers are ‘selected, stored, and framed’ because of the value they might produce by being normalized and computed within the infrastructure in place.

We saw that even when aggregation creates new categories such as the ‘computable consumer’ it does so by way of grouping things together not around a prototype but around an arbitrarily chosen attribute that becomes the regular observable unit. This *regularity* is endowed with *intrinsic reality* just because of the practice it allows.

The last statement paves the way to the second main finding of this dissertation. This relates to the manner in which the system’s logic intervenes in shaping consumption’s knowledge space. The ‘potentiality’ or computability of the ‘stuff’ selected has emerged along the analysis as the difference between *real* and *computable* consumption. If value is obtained by structural properties of the systems, it appears to be a consequence that criteria of knowledge ordering shift from an actual state of value (among which we might include meaning) to a possible state of value. The system formalizes a set of actions as ‘intention to buy’ (tagging among the others) and, on the basis of ‘intended to buy products’ (tagged products), aggregates consumers and personalizes suggestions to buy. ‘Intention data’ though becomes valuable only after the system relates it to product data. By the same token, ‘intentions data’ enters in the computation of suggestions only after the system formalizes consumers as aggregates of intended to buy products. The system formalizes and represents consumption as data on the basis of its potentiality, that is its computability. On this account it produces new categories and new values. I believe that the shift from actual to potential (or computable) *value* promises to be wide-ranging and far-reaching at different social and institutional levels. I have tried to single out some of the possible implications for marketing and consumer behavior, but I believe further work needs to be done. It would be interesting to understand if the shift from actual to potential value involves only consumption domains (for instance the numerous social platforms dedicated to music, fashion, movies) or if it involves general SM as well. Can we still define such supra-entities as categories? If not, are old categories still usable? Or is it rather the case that we are using old names to frame a new technological order of the social that we have yet to understand?

To explain the resistance we have in attributing new names to new phenomena (the power of categorization) in his ‘Kant and the Platypus’ Umberto Eco uses the story of the meeting of Marco Polo with the unicorn. In one of his diaries, Marco Polo writes that he came across the unicorn. Instead of being graceful and white though, he writes, the one he saw was black, dirty and with a graceless horn. Marco Polo’s writing was famous for its extreme adherence to facts, and effectively even in this case, he was recounting a real fact. The problem was

that the known animal categories at that time had a place and a name for unicorns but not for rhinoceroses (Eco, 2000).

Although my own findings are in line with extant research suggesting that social categories are currently reshaped and significantly changed by SM logic (see for instance Bucher, 2012; Gerlitz & Helmond, 2013; Lovink & Rasch, 2013; van Dijck, 2013) - they also go a step further suggesting a shift in the very notion of 'category' for which, it seems we still do not have names. More research is needed to better understand the implications of such remarkable technological change. The absence of the right definition - or of the right name - might lead to the wrong conclusions. By contrast, new principles of grouping (what we used to call categories) do not leave the entities grouped unchanged. Instead of acknowledging the far-reaching changes of such a shift, I believe we are running the risk of dismissing the newness of the technological reordering of the 'social' by forcedly applying old categories or definitions. Is what we experience online still 'social'? Is what consumers experience on SSP still consumption? It might very well be that what we see online are 'rhinoceroses' but we have yet to find their own rightful place within our own theoretical categories.

10.2 Computational Consumption

The dissertation sought to contribute to scholarly work on consumption and marketing by exposing and explaining the technological production of value – qua personal relevance – and its possible consequences in the socio-cultural domain of consumption.

Little has been produced to understand how information technologies might intervene in mediating the complexity of consumption processes. Research on SM marketing rarely analyzes SM beyond the possibilities of data and access it grants to practitioners and consumers respectively. As far as personalization is concerned, scholars have been interested in understanding the mechanics of personal suggestions and recommendation systems but by limiting their discussion to the transactions between producers and consumers. This research has sought to enlarge the space of investigation by focusing on the technological mediation of consumption. Starting from the consideration that consumption has never been just a transaction between producers and consumers, the dissertation has argued that SM's impact and its digitalization of sociality go beyond transactions or transaction data. SM and SSP are interested in formalizing, encoding and computing the social side of consumption: intention, sentiment, and motivation. The evidence from this study suggests framing personalization as the result of complex data works and operations, based predominantly on the formalization and computation of sociality. Personalization is mainly the result of social data normalization and structuration not just of algorithmic suggestions. The main implication of this is to frame personalization as infrastructure of social consumption rather than an

indication of shopping transactions. The complex regime of personalization translates social rules and cultural norms into data and makes them accessible only through the personally relevant criteria that technology establishes.

By drawing on the mechanics of indexing, aggregation, structuration and computation I have discussed the impact of personalization on consumption experience and consumer roles. The system's logic and mechanics condition a radical change in SSP suggestion philosophy, which is no longer based on suggesting the right products but on surprising with new insight on consumers' own selves. Essentially connected to the system's infrastructural principles of knowledge organization, value emerges as a personally relevant numerical abstraction. Although the personally relevant information is the byproduct of social data structuration, normalization, and computation it enters into the signification of consumption and performs as an ordering principle of 'social' and 'personal' consumption. The reason for this change, I have argued, relies on the criteria of knowledge organization already exposed. I am referring to the double shift of SSP consumption categorization, which can be synthesized as the change (i) from essence (or entities) to differences (or variance) and, (ii) from actual value to potential value.

If the regime under which knowledge ordering criteria are produced shifts from the observation of actual occurrences (buying something – transaction data) to the computation of probable occurrences (motivation to buy something – intention data) what is the consequence for the symbolic sphere of consumption?

I have sought to answer to this question by contributing along two directions: modalities of self-concept articulation and marketing practice.

The *modern* concept of the self has a distinctive place in consumption studies. Individuality and mass production of goods go hand in hand. The sociology of consumption has been predominantly the sociology of objects and their use as *meaningful devices* to articulate one's place in society. 'Individuality' has been co-constituted by a predisposition to consume: the appropriateness to act on a set of already established set of values. By relying on socio-cultural categories of knowledge a 'model consumer' has enacted variations of his own appearances as a representation of the 'self'. Modern consumption translated the possibility of being in society by establishing a set of values and practices that regulate 'self' variation, giving rise to original performances of self-representation along established *standard formulae*. Consumption becomes the possibility for articulating one's own individuality as self-appearance when particular notions of 'individuality' are culturally

possible, socially accepted, and economically sustainable. In the absence of categorical entities (based on essence) the possibilities of self-articulation SSP propose are translated into the constant reorganization of self-intentions enacted through profiles, lists and selecting activities.

Lists, profiles, ordered sequences take the place of objects functioning as media in their own terms. Informed by the system's logic these devices underlie consumer experience of consumption and of their selves to corresponding modalities of meaning such as "grosso modo" evaluation and a constant call to order.

It might be tempting to dismiss trivial practices of online consumption as just entertainment, simulation, or passing fads. General SM has proved that 'simulation' such as 'Likes' might lead to new modalities of experiencing the social and, as a consequence, to the institutionalization of new economies. Technological forms of knowledge and modalities to access knowledge are very likely to grow in "specialized mythologies". Objective relevance criteria, individualized pricing policies based on 'popularity' measurements, and self-indexing are just some possible examples which emerged from the case analyzed. SM's consumption produces its own ecology of data that allows indexing, measurement, standardization, and further exchange.

As in the case of Facebook Likes, the Company studied is developing its own 'index of intentionality'. Through 'tags', users are empowered with the possibility of aggregating and therefore curating content from all over the web. The purpose of these new data driven enterprises is to innovate traditional online retailing organization and marketing contexts. The Company investigated is driven by the opportunities created by SM technology, its social data production, and the constant development of algorithms and personalization mechanics. Against this context, the empirical findings of this study advance the understanding of *how* data driven companies innovate marketing and consumption practices. The case studied thus constituted a typical example of how the social 'avalanche of numbers' (data) procured by SM and the practices of computation enabled by SM technology might disrupt ways of organizing communication and consumption in particular domains.

I conclude by opening a second possible scenario for further studies. Against the current paradigm of framing digital marketing as online presence or relations between producer and consumer, this research reintroduces technology's logic in the structuring of online consumption contexts. What emerged from the evidence gathered during the fieldwork is that data driven organizations are competing on data and data operations. At least for the

sector of competence, consumption and retailing, the Company studied will be successful only insofar as the data it produces will be able to tell something different from its competitors. The successful social platforms will structure consumption rules out of indexes and measures, and thus ultimately, the object of this research – technological signification - connotes the case as being potentially indicative of larger shifts in how big data might revolutionise cultural consumption. Movies, music, foods, television, fashion are just some of the socio-cultural sectors of consumption, which are currently being re-organized by data, and data work. Increasingly, data driven organizations are disaggregating and re-aggregating demands on different cultural consumption domains. More research is needed to understand these systems' data infrastructures and operations and to what extent their big data-social data might impact on different consumption domains. Making sense of data seems the major preoccupation of producers but without knowledge and understanding of the manner in which data are structured to produce sense, brands and retailers will be left out from the digital game.

11 Appendix

11.1 Pilot Study: Major themes emerged

11.1.1 Information abundance

“Data is everything. If you don’t have a huge knowledge on data you are out”

(Interview, Consultant a, Marketing and Communication Agency).

Unanimously, the data revolution is felt as disruptive of traditional manners of organizing marketing and communication practices. Data analysis is the main concern of the informants. Data quantity and constant growth are considered as the main constraints to put insights from data in use. “Major brands are in paralysis they still don’t know how to exploit data” (Interview, PR and SM consultant, Fashion PR Agency).

It is diffused the perception that data companies are disrupting communication and consumption practices because of their data availability and analytical capability. Traditional companies on the contrary feel unprepared. Organizations and practitioners believe they have to adjust skills and strategies to make sense of the complex social media landscape. Communication online is now fragmented among a set of different platforms and actors that necessitate constant monitoring through data analysis, insights elaboration and consequential production of content to attract and retain consumers. As one interviewee explains:

“I have the responsibility of social media, even if we don’t have allocated specific human resources for social media here in London, my assistant and I are working with an external agency. [The brand] has a Social Media office in New York but not here in Europe. Our partner elaborates and analyses data on traffic and metrics and now more than before it uses to cure our relationship with bloggers too. We don’t have the resources to follow online projects” (Interview, Director of corporate communication Europe and new markets, Fashion house).

The awareness that information is becoming the real object of online consumption seems to emerge from the growing complexity of communication practices. “Companies neither have human resources nor money to make sense out of data. Therefore new players are coming into action” (Interview, Consultant b, Marketing and Communication Agency). However the multiplication of information sources (blogs, SM, SSP) and the quantity of data produced daily make the task of engaging in online marketing and communication almost impossible for the majority of traditional marketers.

11.1.2 Information processing: discovery / selection

Partially related to information overload is the disruption of the ways in which consumers gain information about brands. However companies struggle against the new mechanics of social media discovery. They do not know how to approach social media communication

and how to integrate different channels to reach a coherent communicative strategy (Interview, Fashion Blogger). Consider for instance the ‘reaction’ of one of the leading fashion brands:

“We are doing a daily fight to persuade Mr. [founder] of the importance of Facebook update and we still don’t have a twitter account because Mr. [founder] doesn’t see the necessity of it. I bet that many other companies are in the same situation” (Interview, Director of corporate communication Europe and new markets, Fashion House).

The online fragmented presence of brands and retailers is taken as opportunity by new ‘data’ companies. The proliferation of computed mediated search tools and recommendations mechanisms are structuring different ways of discovering fashion online.

“Customers are becoming increasingly overwhelmed when face with so many options online. Previously, discovery took the form of search and recommendation engines, powered by algorithms and customer data (Amazon). Today it’s about discovering a category through the eyes of a trusted source: friends, celebrities, and influencers. Many of these discovery tools are integrated platforms, which offer a Facebook or Twitter access therefore the possibility of migrating with all your friends”⁷⁵.

The emergence of social curation platforms appears almost as a remedy against the proliferation of algorithms and automated search engines to safeguard and re-establish the notion of trust between producers and consumers via social circles and groups’ recommendations. However is still not clear how these platforms operate and to what extent they rely on software. Consider for instance:

“While the algorithms may be influenced by your interactions with friends, ultimately the items that pop up on your page are churned out by software that generates suggestions based on the info you type in”⁷⁶.

11.1.3 Disruption of identities narratives / reconfiguration of experience

“It is all about the experience, (...) and you cannot see and feel all the richness of the experience from your iPhone! On you iPhone you cannot experience anything!” (Interview, Social Media Marketing Manager, Fashion Magazine).

New forms of representation are emerging for online communication. New platforms such as the social curation mentioned above are disrupting old ways of communicating with consumers and re-distributing power in the hierarchical and closed system of fashion communication. Magazines and editors have still influence but new medium claims new and more immediate and transparent way of communicating fashion which seem to contradict imaginaries and mythologies of older forms: “The house glass is broken and all the illusion of fashion, the stories don’t work anymore” (Interview, CEO, Fashion start-up,

⁷⁵ Kansara, V. (2011), *Fashion 2.0, Social Curation Start-ups target fashion industry*, “BOF – The Business of Fashion”, (Last accessed 28/03/12).

⁷⁶ Seel, R., *With Fashion Startups, Success is More than Just a Popularity contest*, BetaBeat, 23/03/2012 <http://betabeat.com/2012/03/with-fashion-startups-success-is-more-than-just-a-popularity-contest/> (Last accessed 06/06/12)

retailing). In this moment the phenomenon is ambiguously viewed as both opportunities to innovate and threat to creativity:

“It is definitely something that could make the production process more transparent. But (...) there is also a loss of the romantic side of fashion, of the power of the stories, and the power of the illusion of fashion” (Interview, PR and SM consultant, Fashion PR Agency).

Associated to the disruption of narrative a set of considerations has emerged among which the reconfiguration of experience of communication-consumption seems one of the most interesting. Experience has been central in marketing and communication strategies of fashion during the last decade. On one hand experience is still considered as the result of sensory tools. On the other, the increasing diffusion of online experiences is rewriting the sense of the concept posing major attention on interactivity, playfulness, immediacy etc.

“Mr. [founder] is very much in control of his brand, therefore we are so to say more conservative in social media approach. I am convinced that this is an evolution of the communication and that before or after every actor will be constraint to adequate to digital communication tools. It is even more so for commerce. Online shopping today is paramount and consumer behavior is totally different online. Even more now that consumers are buying on mobile devices like iPhone, iPad, and tablets” (Interview, Director of corporate communication Europe and new markets, Fashion house).

11.1.4 Pilot study: list of interviewees

Consultant a	Marketing and Communication Agency	1/2/201
Consultant b	Marketing and Communication Agency	1/2/2012
Consultant c	Marketing and Communication Agency	1/2/2012
Director of corporate communication Europe and new markets	Fashion house	26/1/2012
		30/1/2012
Social Media Marketing Manager	Fashion Magazine	22/2/2012
PR and SM consultant	Fashion PR Agency	3/3/2012
		20/3/2012
Blogger	Fashion blog	14/5/2012
Digital communication manager	Fashion Magazine 2	22/2/2012
CEO	Fashion start-up, data analytic	16/4/2012
CEO	Fashion start-up, retailing	21/1/2012
Fashion PR and communication consultant	Free lance	21/1/2012
		13/3/2012
CEO	Fashion start-up, blogs' aggregator	25/4/2012

11.2 Corpus Construction Masterlist

(Extract: First round of coding, interviews from 1 to 10, data parsing and corpora attribution)

ID#	PG	LABEL	SEARCH & DISCOVERY	SELECTION	EXPERIENCE
1	1	MODELS - FOURSQUARE		x	
	2	FACEBOOK DATA- SIMILARITY - USERS PROFILING	x		x
	2-3	PERSONALIZATION	x		x
	3	DEFINING USERS- INFLUENTIAL PEOPLE -	x		x
	3	PERSONALIZATION	x	x	x
	4	FACEBOOK DATA- SIMILARITY - USERS PROFILING - AUTOMATIC MATCHING	x		x
	4	USER DATA - PROFILING - EXPERIENCE	x		x
	5	PRODUCT FEED -CATEGORIZATION - AGGREGATION	x	x	x
	6-7	PRODUCT FEED -CATEGORIZATION - AGGREGATION	x	x	x
2	2	PRODUCT FEED -CATEGORIZATION - AGGREGATION			x
	3	FILTERING -SEARCHING	x		
	3	FILTERING: DISCOVERY VS SEARCH	x		
	3-4	COLLABORATIVE FILTERING - PERSONALIZATION -	x		x
	3-4	DEFINING USERS- INFLUENTIAL PEOPLE -	x	x	x
	5	DEFINING USERS- INFLUENTIAL PEOPLE VS FRIENDS	x	x	x
	6-7	MODELS - AMAZON	x		
	7	RETAILING GAMIFICATION		x	x
	8	DATA AGGREGATION - DISCOVERY	x		
3	1	PRODUCT FEED -CATEGORIZATION - AGGREGATION	x		
	1	MODELS - FOURSQUARE - STORES	x		x
	1-2	PRODUCT FEED -CATEGORIZATION - AGGREGATION STORES SCRAPING			x
	2	MODELS - SPOTIFY	x		x
	2-3	MODELS - NETFLIX PERSONALIZATION QUERIES	x		x
	3	FILTERING -SEARCHING	x		
	3	STORES PERSONALIZATION			x
	4	RECOMMENDATION	x		
	4-5	PROMOTED PLACEMENT			x
	5	DEATH OF RETAILER - VISION			x
	5	PRODUCT FEED -CATEGORIZATION - AGGREGATION	x		

	5	BARRIERS FEEDS, FILTERS, ENGAGEMENT			x
	6	DEATH OF RETAILER - VISION	x	x	x
	6-7	DEFINING USERS- INFLUENTIAL PEOPLE - GAMIFICATION	x		x
4	1	FACEBOOK DATA- SIMILARITY - USERS PROFILING	x		
	1-2	SOCIAL DATA VS PRODUCT DATA PERSONALIZATION	x	x	
	2	MODELS - NETFLIX PERSONALIZATION QUERIES	x		x
	3	BUSINESS MODEL SERVICE TO RETAILERS			
	4-5	AFFILIATE MARKETING			
	5	DATA VS CONTENT			x
	5	MODELS - NETFLIX PERSONALIZATION QUERIES	x		x
5	1	ASSUMPTIONS			
	2	DATABASE STRUCTURE	x	x	x
	2	FACEBOOK DATA- SIMILARITY - USERS PROFILING	x		
	2	DATA CREATED - ACTION		x	
	2	LISTS - SELF-EXPRESSION MISTAKE			x
	2-3	DATA CREATED - ACTION-AMBIGUITY		x	
	3	DATA CREATED - ACTION-BACKGROUND		x	
	3	DATABASE STRUCTURE-OBJECTS		x	
	3-4	DATABASE STRUCTURE-ACTIONS		x	
	3	DATABASE STRUCTURE-CONTEXT			
	4	DATABASE STRUCTURE-ORDERING			
	4	DATABASE STRUCTURE-PATTERNS	x	x	
	5	DATA CREATED - ACTION-BACKGROUND		x	
	5	DATABASE STRUCTURE			
	5-6	DATABASE STRUCTURE-AGGREGATION AS DEFINING CRITERIA		x	
	6	RECOMMENDATION-AGGREGATION AS DEFINING CRITERIA-SIMILARITY		x	
	6	RECOMMENDATION-AGGREGATION AS DEFINING CRITERIA-POPULARITY AS THE MOST RETAGGED		x	x
	6-7	DATABASE STRUCTURE-AGGREGATION AS DEFINING CRITERIA	x		x
	7	PRODUCT FEED -CATEGORIZATION - AGGREGATION-FILTERING			x

	7-8-9-10	MODELS - NETFLIX PERSONALIZATION QUERIES (ASSISTED DISCOVERY INSTEAD OF RECOMMENDATION)	x		x
	10-11	DATABASE STRUCTURE-MAPPING RECOMMENDATION (RANKING PROBLEM)			
6	1-2	DATABASE STRUCTURE-MAPPING RECOMMENDATION (RANKING PROBLEM)			
	2	SOCIAL DATA VS PRODUCT DATA PERSONALIZATION MEASURE: POPULARITY VS RECENT	x		x
	2-4	DATABASE STRUCTURE-MAPPING RECOMMENDATION (RANKING PROBLEM) CONTEXT			
	3-4	DATA CREATED - ACTION-BACKGROUND		x	x
	5-6	MEASURES-POPULAR-RELEVANT	x		
	5-6-7-8	DATABASE STRUCTURE-AGGREGATION AS DEFINING CRITERIA-BASE FOR RECOMMENDATION	x		x
	6-7-8	FACEBOOK DATA- SIMILARITY - USERS PROFILING NEWCOMERS-RECOMMENDATION	x		
	9-10-11	VALUE PROPOSITION		x	x
	11-12	DATABASE STRUCTURE MISTAKE (REWARD)			x
	11-12	DATABASE STRUCTURE-PATTERNS ACTION-NOTIFICATION-BEHAVIOR			x
7	1	PRODUCT FEED -CATEGORIZATION - AGGREGATION-FILTERING	x	x	
	2-3	PRODUCT FEED-INGESTION	x	x	
	3-4	PRODUCT FEED -CATEGORIZATION - RECENT VS TAG RECENT	x		
	4-5	PRODUCT FEED-INGESTION BOOKMARKLET	x	x	
	4	DATA CREATED - ACTION		x	
	6-7	DATA CREATED - ACTION-OUT-OF-STOCK	x		x
	7	LISTS - SELF-EXPRESSION			x
	7-8	BUSINESS MODEL-AFFILIATE MARKETING			
	8-9	DATA CREATED - ACTION-BACKGROUND TRACKING API		x	x
	10-11-12	DATA CREATED - ACTION		x	
	12-13	BUSINESS MODEL SERVICE TO RETAILERS			
8	1-6	BUSINESS MODEL PROMOTED PLACEMENT			
	2-6	DATA CREATED - ACTION COMMERCIAL VALUE		x	
	4	ALGORITHM			x

	6	DATA CREATED - ACTION A/B TEST GROWTH		x	
	6	DATABASE STRUCTURE-AGGREGATION AS DEFINING CRITERIA	x	x	x
	7	DATA CREATED - ACTION AND FILTERING BY CATEGORIES		x	
	8	DEFINING USERS- AGGREGATION		x	x
	10	DATABASE STRUCTURE-ACTIONS CONNECTION TABLE		x	x
	10-11	INTERFACE DESIGN AND CONSUMERS BEHAVIOR			x
9	1	USER DATA - PROFILING - SOCIO-DEMOGRAPHIC- PERSONALIZATION			x
	1-2	USER DATA - PROFILING - ACTIONS		x	x
	2-4	FACEBOOK DATA- SIMILARITY - USERS PROFILING - AUTOMATIC MATCHING	x		x
	4	USER DATA - PROFILING - SOCIO-DEMOGRAPHIC- PERSONALIZATION	x		x
	4-5	FACEBOOK DATA- SIMILARITY - USERS PROFILING - AUTOMATIC MATCHING	x		x
	5-6	MEASURES-INFLUENTIAL AND CATEGORIES AGGREGATION			x
	5-6	USER DATA - PROFILING - SOCIO-DEMOGRAPHIC- PERSONALIZATION	x		x
	6-7	MODELS - NETFLIX PERSONALIZATION QUERIES	x		x
	8-9	SOCIAL DATA VS PRODUCT DATA PERSONALIZATION			x
	8-10	SOCIAL DATA VS PRODUCT DATA PERSONALIZATION THE AMBIGUITY OF FOLLOWING	x	x	
	9-10	SOCIAL DATA VS PRODUCT DATA PERSONALIZATION VS ASSISTED DISCOVERY	x	x	x
	10-11	SOCIAL DATA VS PRODUCT DATA RANKING			
	11-13	SOCIAL INTERACTION		x	x
	13-16	LISTS - SELF-EXPRESSION			x
	16-17	DATABASE STRUCTURE-ACTIONS		x	
	18	INTERFACE DESIGN AND CONSUMERS BEHAVIOR			x
10	1	FIRST AND SECOND ROUND OF INVESTMENTS			
	1-2	INTERFACE DESIGN AND CONSUMERS BEHAVIOR - FILTERS			x
	2-3	INTERFACE DESIGN AND CONSUMERS BEHAVIOR - STRUCTURE AND CONTENT SEPARATION			x
	3-4	INTERFACE DESIGN AND CONSUMERS BEHAVIOR- MOBILE SCALABILITY			x
	4	INTERFACE DESIGN AND CONSUMERS BEHAVIOR - FILTERS			x
	6-7	INTERFACE DESIGN AND CONSUMERS BEHAVIOR- LAYERS			x

	7	INTERFACE DESIGN AND CONSUMERS BEHAVIOR - FILTERS AND RECOMMENDATION			x
	8-9	MODELS-FACEBOOK CONTEXT	x		x
	9-10	INTERFACE DESIGN AND CONSUMERS BEHAVIOR - FILTERS AND RECOMMENDATION			x

12 Bibliography

- Aaltonen, A., & Tempini, N. (2014). Everything counts in large amounts: a critical realist case study on data-based production. *Journal of Information Technology*.
- Abdelnour, S., & Saeed, A. M. (2014). Technologizing Humanitarian Space: Darfur Advocacy and the Rape-Stove Panacea. *International Political Sociology*, 8(2), 145-163. doi: 10.1111/ips.12049
- Adkins, L., & Lury, C. (2012). Introduction: special measures. *The Sociology Review*, 59(s2), 5-23.
- Adorno, T. W., & Horkheimer, M. (1997). *Dialectic of Enlightenment*: Verso.
- Agre, P. (1997). *Computation and human experience* (illustrated ed.). Cambridge ; New York: Cambridge University Press.
- Ahuvia, A. (2005). Beyond the Extended Self: Loved Objects and Consumers' Identity Narratives. *Journal of Consumer Research*, 32(1), 171-184.
- Alaimo, C. (2013) Technology of consumption on social shopping platforms: deconstructing Similarity, Paper presented at EGOS: Montreal, Canada
- Alasuutari, P., Bickman, L., Brannan, J., & Brannen, J. (2008). *The SAGE Handbook of Social Research Methods*. London: Sage.
- Allen, M. (2013). What was Web 2.0? Versions as the dominant mode of internet history. *New Media & Society*, 15(2), 260-275.
- Anderson, C. (2010). *The Long Tail: How Endless Choice is Creating Unlimited Demand*: Random House.
- Appadurai, A. (1988). *The Social life of things: commodities in cultural perspective*: Cambridge University Press.
- Archer, M. S. (1998). Introduction: Realism in the Social Sciences. In M. S. Archer, R. Bhaskar, A. Collier, T. Lawson & A. Norrie (Eds.), *Critical Realism: Essential Readings* (pp. 189-205): Routledge.
- Ariely, D. (2009). *Predictably Irrational: The Hidden Forces that Shape Our Decisions*: Harper.
- Arnheim, R. (1974). *Entropy and Art: An Essay on Disorder and Order*: University of California Press.
- Arnould, E. J., & Thompson, C. J. (2005). Consumer culture theory (CCT): Twenty years of research. *Journal of Consumer Research*, 31(4), 868-882.
- Arora, P. (2011). Online Social Sites as Virtual Parks: An Investigation into Leisure Online and Offline. *The Information Society*, 27(2), 113-120.
- Arvidsson, A. (2004). On the "Pre-History of the Panoptic Sort": Mobility in Market Research. *Surveillance & Society*, 1(4), 456-474.
- Arvidsson, A. (2006). 'Quality singles': internet dating and the work of fantasy. *New Media & Society*, 8(4), 671-690.
- Arvidsson, A. (2012). General Sentiment: how value and affect converge in the information economy. *The Sociological Review*, 59(s2), 39-59.
- Arvidsson, A., & Malossi, G. (2011). Customer Co-production from Social Factory to Brand: Learning from Italian Fashion. In D. Zwick & J. Cayla (Eds.), *Inside Marketing: Practices, Ideologies, Devices*. Oxford: Oxford University Press.
- Arvidsson, A., Malossi, G., & Naro, S. (2010). Passionate Work? Labour Conditions in the Milan Fashion Industry. *Journal for Cultural Research*, 14(3), 295-309.
- Atkins, S., Clear, J., & Ostler, N. (1992). Corpus design criteria. *Literary and Linguistic Computing*, 7(1-16).
- Atkinson, P., Bauer, M. W., & Gaskell, G. (2000). *Qualitative Researching with Text, Image and Sound: A Practical Handbook for Social Research*: SAGE Publications.
- Atwal, G., & Williams, A. (2009). Luxury brand marketing - The experience is everything! *Journal of Brand Management*, 16(338-346).
- Avgerou, C., & Cornford, T. (1993). *Developing Information Systems: Concepts, Issues and Practice*: MacMillan.
- Ayres, I. (2008). *Super Crunchers: How Anything Can Be Predicted*: John Murray.
- Baier, K., & Rescher, N. (1969). *Values and the future: the impact of technological change on American values*: Free Press.
- Barassi, V., & Trere, E. (2012). Does Web 3.0 come after Web 2.0? Deconstructing theoretical assumptions through practice. *New Media & Society*, 14(8), 1269-1285.
- Bargh, J. A., McKenna, K. Y., & Fitzsimons, G. M. (2002). Can you see the real me? Activation and expression of the true self on the Internet. *Journal of Social Issues*, 58(1), 33-48.

- Barnard, M. (2002). *Fashion as communication*: Routledge.
- Barnard, M. (2007). *Fashion theory: a reader*: Routledge.
- Barthes, R. (1967). *Elements of Semiology*. New York: Hill and Wang.
- Barthes, R. (1983). *The fashion system*: University of California Press.
- Barthes, R., & Heath, S. (1977). *Image, music, text*: Fontana Press.
- Barthes, R., & Lavers, A. (1993). *Mythologies*: Vintage.
- Barthes, R., Stafford, A., & Carter, M. (2006). *The language of fashion*: Berg.
- Bateson, G. (1972). *Steps to an ecology of mind*: University of Chicago Press.
- Battelle, J. (2005). *The Search: How Google and Its Rivals Rewrote the Rules of Business and Transformed Our Culture*: Portfolio.
- Baudrillard, J. (1993). *Symbolic exchange and death*: Sage Publications.
- Baudrillard, J. (1994). *Simulacra and Simulation*: University of Michigan Press.
- Baudrillard, J. (1998). *The consumer society: myths and structures*: Sage.
- Baudrillard, J. (2005). *The system of objects*: Verso.
- Baudrillard, J., Schütze, B., Violeau, J., & Schütze, C. (2012). *The Ecstasy of Communication: Semiotexte/Smart Art*.
- Bauer, M. W., & Aarts, B. (2000). Corpus construction: a principle for qualitative data collection. In M. W. Bauer & G. Gaskell (Eds.), *Qualitative researching with text, image and sound. A practical handbook for social researchers* (pp. 19-37). London: Sage.
- Bauman, Z. (2000). *Liquid Modernity*: Polity Press.
- Bauman, Z. (2005). *Liquid Life*: Polity.
- Bauman, Z. (2007a). Collateral Casualties of Consumerism. *Journal of Consumer Culture*, 7(1), 25-56.
- Bauman, Z. (2007b). *Liquid Times: Living in an Age of Uncertainty*: Polity Press.
- Baym, N. K. (2010). *Personal Connections in the Digital Age*: Wiley.
- Baym, N. K., & boyd, d. (2012). Socially Mediated Publicness: An Introduction. *Journal of Broadcasting & Electronic Media*, 56(3), 320-329.
- Bechmann, A., & Lomborg, S. (2012). Mapping actor roles in social media: Different perspectives on value creation in theories of user participation. *New Media & Society*.
- Beer, D. (2008). Social network(ing) sites.revisiting the story so far: A response to danah boyd & Nicole Ellison. *Journal of Computer-Mediated Communication*, 13 516-529.
- Beer, D. (2009). Power through the algorithm? Participatory web cultures and the technological unconscious. *New Media & Society*, 11(6), 985-1002.
- Beer, D., & Burrows, R. (2013). Popular Culture, Digital Archives and the New Social Life of Data. *Theory, Culture & Society*, 1-25.
- Beldad, A., de Jong, M., & Steehouder, M. (2011). A Comprehensive Theoretical Framework for Personal Information-Related Behaviors on the Internet. *The Information Society*, 27(4), 220-232.
- Belk, R. (1988). Possession and the Extended Self. *Journal of Consumer Research*, 15, 139-169.
- Belk, R. (2000). Are we what we own? In A. L. Benson (Ed.), *I Shop, Therefore I Am: Compulsive Buying and the Search for Self* (pp. 76-99): Jason Aronson.
- Belk, R., Ger, G., & Askegaard, S. (2003). The Fire of Desire: A Multisited Inquiry into Consumer Passion. *Journal of Consumer Research*, 30, 326-351.
- Belk, R., Wallendorf, M., & Sherry, J. (1989). The sacred and the profane in consumer behavior: Theodicy on the odyssey. *Journal of Consumer Research*, 1-38.
- Benjamin, W., & Tiedemann, R. (1999). *The Arcades Project*: Belknap Press of Harvard University Press.
- Bentley, A., Earls, M., O'Brien, M. J., & Maeda, J. (2011). *I'll Have What She's Having: Mapping Social Behavior*: MIT Press.
- Berners-Lee, T., & Fischetti, M. (2008). *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor*: Paw Prints.
- Berry, D. (2011). *The philosophy of software : code and mediation in the digital age* (illustrated ed.). Basingstoke, Hampshire ; New York: Palgrave Macmillan.
- Berry, D. (2013). Against Remediation. In G. Lovink & M. Rasch (Eds.), *Unlike us reader: social media monopolies and their alternative*. (pp. 31-49). Amsterdam: Institute of Network Cultures.
- Bhidé, A. (2008). *The Venturesome Economy: How Innovation Sustains Prosperity in a More Connected World*: Princeton University Press.
- Biber, D. (1993). Representativeness in corpus design. *Literary and Linguistic Computing*, 8(4), 243-257.

- Blackwell, R. D., Miniard, P. W., & Engel, J. F. (2001). *Consumer Behavior*: Harcourt College Publishers.
- Blumer, H. (1969). Fashion: From Class Differentiation to Collective Selection. *The Sociological Quarterly*, 10(3), 275-291.
- Borgmann, A. (2000). *Holding on to reality: the nature of information at the turn of the millennium*: University of Chicago Press.
- Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*: Harvard University Press.
- Bowker, G. C. (2008). *Memory Practices in the Sciences*: Mit Press.
- Bowker, G. C., & Star, S. L. (2000). *Sorting things out: classification and its consequences*: MIT Press.
- Boyatzis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*: SAGE Publications.
- boyd, d. (2010). Social Network Sites as Networked Publics: Affordances, Dynamics, and Implications. In Z. Papacharissi (Ed.), *Networked Self: Identity, Community, and Culture on Social Network Sites* (pp. 33-59).
- boyd, d., & Crawford, K. (2012). Critical Questions For Big Data. *Information, Communication & Society*, 15(5), 662-679.
- boyd, d. M., & Ellison, N. B. (2008). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13 210-230.
- Braudel, F., & Reynolds, S. (1992). *The Structures of Everyday Life: The Limits of the Possible*: University of California Press.
- Bruce, M., & Kratz, C. (2007). Competitive marketing strategies of luxury fashion companies. In T. Hines & M. Bruce (Eds.), *Fashion Marketing. Contemporary issues* (pp. 130-150). London: Elsevier.
- Bruns, A. (2008). *Blogs, Wikipedia, Second Life, and Beyond: From Production to Prodsusage*: Peter Lang.
- Brunso, K., Scholdere, J., & Grunert, K. (2004). Closing the Gap between Values and behaviour: a means - end theory of Lifestyle. *Journal of Business Research*, 57(665-670).
- Bucher, T. (2012). Want to be on the top? Algorithmic power and the threat of invisibility on Facebook. *New Media & Society*, 14(7), 1164-1180.
- Burns, L., & Bryant, N. (2002). *The business of fashion: designing, manufacturing, and marketing*: Fairchild Publications.
- Calefato, P. (2004). *The clothed body*: Berg.
- Calefato, P. (2007). *Mass moda. Linguaggio e immaginario del corpo vestito*: Meltemi.
- Campbell, C. (2004). I shop therefore I know that I Am. In K. M. Ekström & H. Brembeck (Eds.), *Elusive Consumption*. Oxford: Berg.
- Carr, N. (2008). *The Big Switch: Rewiring the World, from Edison to Google*: W.W. Norton & Company.
- Carr, N. (2011). *The Shallows: What the Internet Is Doing to Our Brains*: W. W. Norton & Company.
- Carrol, A. (2009). Brand communications in fashion categories using celebrity endorsement. *Journal of Brand Management*, 17(2), 146 - 158.
- Caru, A., & Cova, B. (2013). *Consuming Experience*: Taylor & Francis.
- Castelle, M. (2013). Relational and Non-Relational Models in the Entextualization of Bureaucracy. *Computational Culture*(III).
- Castells, M. (2009). *Communication Power*: OUP Oxford.
- Chang, B. G. (2010). To the archive: A postal tale. *Communication and Critical/Cultural Studies*, 7(2), 202-206.
- Cheney-Lippold, J. (2011). A New Algorithmic Identity: Soft Biopolitics and the Modulation of Control. *Theory, Culture & Society*, 28(6), 164-181.
- Chevalier, M., & Mazzalovo, G. (2008). *Luxury brand management: a world of privilege*: John Wiley & Sons (Asia).
- Chu, S.-C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *International Journal of Advertising*, 30(1), 47.
- Corbellini, E., Saviolo, S., & Connelly, J. (2009). *Managing fashion and luxury companies*: Etas.
- Couldry, N. (2012). *Media, Society, World: Social Theory and Digital Media Practice*: Wiley.
- Court, D., Elzinga, D., Mulder, S., & Vetvik, O. (2009). The Consumer Decision Journey. *McKinsey Quarterly*, 3.
- Crane, D. (1999a). Diffusion Models and Fashion: A Reassessment. *Annals of the American Academy of Political and Social Science*, 566, 13-24.

- Crane, D. (1999b). Gender and Hegemony in Fashion Magazines: Women's Interpretations of Fashion Photographs. *The Sociological Quarterly*, 40(4), 541-563.
- Crane, D. (2000). *Fashion and its social agendas: class, gender, and identity in clothing*: University of Chicago Press.
- Crane, D., & Bovone, L. (2006). Approaches to material culture: The sociology of Fashion and Clothing. *Poetics*, 34(319-333).
- Crewe, L. (2011). Life itemised: lists, loss, unexpected significance, and the enduring geographies of discard. *Environment and Planning D: Society and Space*, 29(1), 27-46.
- Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*: Sage Publications.
- Davis, F. (1994). *Fashion, culture, and identity*: University of Chicago Press.
- Davis, K. (2012). Tensions of identity in a networked era: Young people's perspectives on the risks and rewards of online self-expression. *New Media & Society*, 14(4), 634-651.
- de Vries, K. (2010). Identity, profiling algorithms and a world of ambient intelligence. *Ethics and Information Technology*, 12, 71-85.
- DeLanda, M. (2006). *A New Philosophy of Society: Assemblage Theory and Social Complexity*: Bloomsbury Academic.
- Derrida, J. (1998). *Archive fever : a Freudian impression* (illustrated, reprint ed.). Chicago [Ill.]: University of Chicago Press.
- Desrosières, A. (2002). *The politics of large numbers: A history of statistical reasoning*: Harvard University Press.
- Desrosières, A. (2013). Mapping the Social World: From Aggregates to Individuals. *Limn*, (Two: Crowds and Clouds). <http://limn.it/mapping-the-social-world-from-aggregates-to-individuals/>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From game design elements to gamefulness: defining gamification*. Paper presented at the Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments.
- Dijk, M. (2009). *LUXURY FASHION MANAGEMENT: Brand and Marketing Management in the Ever-changing Luxury Fashion Industry*: VDM Verlag.
- Divol, R., Edelman, D., & Sarrazin, H. (2012). Demystifying Social Media. *McKinsey Quarterly*, April
- Dodge, M., & Kitchin, R. (2009). Software, objects, and home space. *Environment and Planning A*, 41(6), 1344-1365.
- Dolich, I. J. (1969). Congruence Relationships Between Self Images and Product Brands. *Journal of Marketing Research (JMR)*, 6(1), 80-84.
- Douglas, M., & Isherwood, C. (1996). *The world of goods: towards an anthropology of consumption*: Routledge.
- du Gay, P., & Pryke, M. (2002). *Cultural Economy: Cultural Analysis and Commercial Life*: SAGE Publications.
- Duhigg, C. (2012). *The Power of Habit: Why We Do What We Do, and How to Change*: Random House.
- Eco, U. (1979). *A theory of semiotics*: Indiana University Press.
- Eco, U. (1984). *The role of the reader: explorations in the semiotics of texts*: Indiana University Press.
- Eco, U. (1986). *Semiotics and the philosophy of language*: Indiana University Press.
- Eco, U. (1994). *The limits of interpretation*: Indiana University Press.
- Eco, U. (2000). *Kant and the Platypus: Essays on Language and Cognition*: Random House Publishers India Pvt. Limited.
- Eco, U., & Collini, S. (1992). *Interpretation and overinterpretation*: Cambridge University Press.
- Eco, U., & McEwen, A. (2009). *The Infinity of Lists: An Illustrated Essay*: Rizzoli.
- Ekström, K. M., & Brembeck, H. (2004). *Elusive Consumption*: Bloomsbury Academic.
- Ellison, N. B., Hancock, J. T., & Toma, C. L. (2012). Profile as promise: A framework for conceptualizing veracity in online dating self-presentations. *New Media & Society*, 14(1), 45-62.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- Elmer, G. (2004). *Profiling machines: Mapping the personal information economy*: MIT Press.
- English, B. (2007). *A cultural history of fashion in the twentieth century: from the catwalk to the sidewalk*: Berg.

- Espeland, W. N., & Stevens, M. L. (1998). Commensuration as a social process. *Annual review of sociology*, 313-343.
- Esposito, E. (2004a). The Arts of Contingency. *Critical Inquiry*, 31(1), 7-25.
- Esposito, E. (2004b). *I paradossi della moda. Originalità e transitorietà nella società moderna*: Baskerville.
- Esposito, E. (2008). *Probabilità improbabili. La realtà della finzione nella società moderna*: Meltemi Editore.
- Evans, M. M., Foxall, G., & Jamal, A. (2009). *Consumer Behaviour*: Wiley.
- Fairclough, N., Jessop, B., & Sayer, A. (2003). Critical Realism and Semiosis. <http://www.comp.lancs.ac.uk/sociology/papers/Fairclough-Jessop-Sayer-Critical-Realism-and-Semiosis.pdf>.
- Faulkner, P., & Runde, J. (2009). On the identity of technological objects and user innovations in function. *Academy of Management Review*, 34(3), 442-462.
- Faulkner, P., & Runde, J. (2012). On sociomateriality. In P. M. Leonardi, B. A. Nardi & J. Kallinikos (Eds.), *Materiality and organizing: Social interaction in a technological world* (pp. 49-66).
- Featherstone, M. (2007). *Consumer Culture and Postmodernism*: SAGE Publications.
- Featherstone, M. (2009). Ubiquitous Media: An Introduction. *Theory, Culture & Society*, 26(2-3), 1-22.
- Festinger, L. (1954). A theory of social comparison processes. *Human relations*, 7(2), 117-140.
- Finn, M. (2010). Alimentary Ethics in the History of Sexuality and NBC's 'The Biggest Loser'. In S. Binkley & J. Capetillo (Eds.), *A Foucault for the 21st Century: Governmentality, Biopolitics and Discipline in the New Millennium* (pp. 350-364): Cambridge Scholars Publishing.
- Flick, U. (2000). Episodic Interviewing. In M. W. Bauer & G. Gaskell (Eds.), *Qualitative Researching: with Text, Image and Sound. A Practical Handbook* (pp. 75-92). London: Sage.
- Flick, U. (2009). *An Introduction to Qualitative Research*: Sage.
- Flugel, J. C. (1930). *The psychology of clothes*: International Universities Press.
- Foucault, M. (2002). *Archaeology of Knowledge*: Routledge.
- Foucault, M. (2012). *The Order of Things: An Archaeology of Human Sciences*: Knopf Doubleday Publishing Group.
- Foucault, M., Martin, L. H., Gutman, H., & Hutton, P. H. (1988). *Technologies of the Self: A Seminar with Michel Foucault*: University of Massachusetts Press.
- Fournier, S. (1998). Consumers and their Brands: Developing Relationship Theory in Consumer Research. *Journal of Consumer Research*, 24, 343-373.
- Franchi, M., & Schianchi, A. (2011). *Scegliere nel tempo di Facebook. Come i social network influenzano le nostre preferenze*. Roma: Carocci Editore.
- Fuller, M. (2003). *Behind the Blip: Essays on the Culture of Software*: Automedia.
- Fuller, M., & Goffey, A. (2012a). Digital Infrastructures and the Machinery of Topological Abstraction. *Theory, Culture & Society*, 29(4-5), 311-333.
- Fuller, M., & Goffey, A. (2012b). *Evil Media*: MIT Press.
- Gabriel, Y., & Lang, T. (2006). *The Unmanageable Consumer*: SAGE Publications.
- Galloway, A. R. (2010). The Anti-Language of New Media. *Discourse*, 32(3), 276-284.
- Galloway, A. R. (2011). What is New Media?: Ten Years after the Language of New Media. *Criticism*, 53(3), 377-384.
- Gehl, R. W. (2011). The archive and the processor: The internal logic of Web 2.0. *New Media & Society*, 13(8), 1228-1244.
- Gergen, K. J. (2002). The challenge of absent presence. In J. E. Katz & M. Aakhus (Eds.), *Perpetual Contact: Mobile Communication, Private Talk, Public Performance* (pp. 227-241): Cambridge University Press.
- Gerlitz, C. (2012). Acting on Data. Temporality and Self-Evaluation in Social Media. *tbc*, 1-18.
- Gerlitz, C., & Helmond, A. (2011). *Hit, Link, Like and Share. Organizing the social and the fabric of the web in a Like economy*. Paper presented at the DMI mini-conference.
- Gerlitz, C., & Helmond, A. (2013). The Like economy: Social buttons and the data-intensive web. *New Media & Society*, 1-18.
- Giddens, A. (1991). *Modernity and Self-identity: Self and Society in the Late Modern Age*: Stanford University Press.
- Gillespie, T. (2010). The politics of 'platforms'. *New Media & Society*, 12(3), 347-364.
- Gillespie, T. (2013). The Relevance of Algorithms. In T. Gillespie, P. Boczkowski & K. Foot (Eds.), *Media Technologies*. Cambridge, MA: MIT Press.
- Goffman, E. (1956). *The Presentation of Self in Everyday Life*. Edinburgh: University of Edinburgh, Social Sciences Research Centre.

- Goffman, E. (1979). *Gender advertisements*: Macmillan.
- Gombrich, E. H. (1984). *The sense of order: a study in the psychology of decorative art*: Cornell University Press.
- Gonzales, A. L., & Hancock, J. T. (2011). Mirror, mirror on my Facebook wall: effects of exposure to Facebook on self-esteem. *Cyberpsychol Behav Soc Netw*, 14(1-2), 79-83.
- Goody, J. (1977). *The Domestication of the Savage Mind*: Cambridge University Press.
- Gottdiener, M. (1995). *Postmodern Semiotics*: Wiley.
- Graeff, T. R. (1997). Consumption situations and the effects of brand image on consumers' brand evaluations. *Psychology & Marketing*, 14(1), 49-70.
- Graham, S. (2004). *The Cybercities Reader*: Routledge.
- Gronow, J. (1993). Taste and Fashion: The Social Function of Fashion and Style. *Acta Sociologica*, 36(2), 89-100.
- Grubb, E. L., & Grathwohl, L. H. (1967). Consumer Self-Concept, Symbolism and Market Behaviour: A Theoretical Approach. *Journal of Marketing*, 31(4), 22-27.
- Hacking, I. (1999). *The Social Construction of What?* Cambridge, Mass: Harvard University Press.
- Hagiu, A., & Wright, J. (2011). Multi-Sided Platforms. *Harvard Working Paper*, 12-024. http://www.hbs.edu/faculty/Publication_Files/12-024.pdf
- Halavais, A. (2008). *Search Engine Society*: Polity.
- Hayles, N. K. (1999). *How we became posthuman: virtual bodies in cybernetics, literature, and informatics*: University of Chicago Press.
- Heaton, G., & McLellan, D. (2008). *The Age of Conversation*: Lulu.com.
- Heinrichs, J. H., Lim, J. S., & Lim, K. S. (2011). Influence of social networking site and user access method on social media evaluation. *Journal of Consumer Behaviour*, 10, 347-355.
- Hines, T., & Bruce, M. (2007). *Fashion Marketing. Contemporary Issues*. London: Elsevier.
- Hines, T., & Quinn, L. (2007). Segmenting fashion consumers: reconstructing the challenge of consumer complexity. In T. Hines & M. Bruce (Eds.), *Fashion Marketing. Contemporary issues* (pp. 73-88). London: Elsevier.
- Holt, D. B. (1997). Poststructuralist Lifestyle Analysis: Conceptualizing the Social Patterning of Consumption in Postmodernity. *Journal of Consumer Research*, 23(4), 326-350.
- Holt, D. B. (2002). Why do brands cause trouble? A dialectical theory of consumer culture and branding. *Journal of Consumer Research*, 29(1), 70-90.
- Hsu, C.-L., & Lin, J.-C. (2008). Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation. *Information Management*, 45(65-74).
- Hung, K., Li, S. Y., & Tse, D. K. (2011). Interpersonal Trust and Platform Credibility in a Chinese Multibrand Online Community. *Journal of Advertising*, 40(3), 99-112.
- Ilmonen, K., Sulkunen, P., Rahkonen, K., Gronow, J., Noro, A., & Warde, A. (2011). *A Social and Economic Theory of Consumption*. London: Palgrave MacMillan.
- Introna, L. D., & Nissenbaum, H. (2000). Shaping the Web: Why the Politics of Search Engines Matters. *The Information Society*, 16(3), 169-185.
- Jackson, T., & Shaw, D. (2009). *Mastering Fashion Marketing*: Palgrave MacMillan.
- Jaeger, A. C. (2009). *Fashion makers, fashion shapers: the essential guide to fashion by those in the know*: Thames & Hudson.
- Jenkins, H. (2004). The Cultural Logic of Media Convergence. *International Journal of Cultural Studies*, 7(1), 33-43.
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York: Press, NY.
- John, N. A. (2013). Sharing and Web 2.0: The emergence of a keyword. *New Media & Society*, 15(2), 167-182.
- Jurgenson, N., & Rey, P. (2013). The fan dance: how privacy thrives in an age of hyper-publicity. In G. Lovink & M. Rasch (Eds.), *Unlike Us Reader: Social media monopolies and their alternatives*. Amsterdam: Institute of Network Cultures.
- Kallinikos, J. (1993). Identity, recursiveness and change: Semiotic and beyond. In P. Ahonen (Ed.), *Tracing the semiotic boundaries of politics* (pp. 257-279). Berlin: Mouton de Gruyter.
- Kallinikos, J. (1995). The Architecture of the Invisible: Technology is Representation. *Organization*, 2(1), 117-140.
- Kallinikos, J. (1995). Cognitive Foundation of Economic Institutions: Markets, Organizations and Networks Revisited. *Scandinavian Journal of Management*, 11(2), 119-137.
- Kallinikos, J. (1996). Predictable worlds: On writing, accountability and other things. *Scandinavian Journal of Management*, 12(1), 7-24.
- Kallinikos, J. (2001). Antecedents of Computer and Information Technologies *The age of flexibility : managing organizations and technology* (pp. 23-35). Lund: Academia-Adacta.

- Kallinikos, J. (2004). Farewell to Constructivism: Technology and Context-Embedded Action. In C. Avgerou, C. Ciborra & F. Land (Eds.), *The Social Study of Information and Communication Technology: Innovation, Actors and Contexts* (pp. 140-161). Oxford: Oxford University Press.
- Kallinikos, J. (2006). *The consequences of information: institutional implications of technological change*: Edward Elgar.
- Kallinikos, J. (2009). On the Computational Rendition of Reality: Artefacts and Human Agency. *Organization*, 16(2), 183-202.
- Kallinikos, J. (2010). *Governing Through Technology: Information Artefacts and Social Practice*: Palgrave Macmillan.
- Kallinikos, J. (2012). Form, Function and Matter: Crossing the Border of Materiality. In P. M. Leonardi, B. A. Nardi & J. Kallinikos (Eds.), *Materiality and Organizing* (pp. 67-90). Oxford: Oxford University Press.
- Kapferer, J.-N., & Bastien, V. (2009). The specificity of luxury management: Turning marketing upside down *Journal of Brand Management*, 16(311-322).
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53, 59-68.
- Kawamura, Y. (2005). *Fashion-ology: an introduction to fashion studies*: Berg.
- Kennedy, J. (2013). Rhetorics of sharing: data, imagination, and desire. In G. Lovink & M. Rasch (Eds.), *Unlike us reader: social media monopolies and their alternative*. (pp. 127-136): Institute of Network Cultures.
- Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54, 241-251.
- Kim, J., & Lee, J.-E. R. (2011). The Facebook paths to happiness: effects of the number of Facebook friends and self-presentation on subjective well-being. *Cyberpsychol Behav Soc Netw*, 14(6), 359-364.
- Kittler, F. (2009). Towards an Ontology of Media. *Theory, Culture & Society*, 26(2-3), 23-31.
- Kittler, F. (2013). *Literature, Media, Information Systems*: Taylor & Francis.
- Kozinets, R. V. (2001). Utopian Enterprise: Articulating the Meaning of Star Trek's Culture of Consumption. *Journal of Consumer Research*, 28, 67-79.
- Kozinets, R. V., Belz, F. M., & Pierre, M. (2011). Social Media for Social Change. A Transformative Consumer Research Perspective. In D. G. Mick, S. Pettigrew & C. Pechmann (Eds.), *Transformative Consumer Research for Personal and Collective Well-Being* (pp. 205-224). London: Routledge.
- Kramer, S. (2006). The Cultural Techniques of Time Axis Manipulation: On Friedrich Kittler's Conception of Media. *Theory, Culture & Society*, 23(7-8), 93-109.
- Krasnova, H., Spiekermann, S., Koroleva, K., & Hildebrand, T. (2010). Online social networks: why we disclose. *Journal of Information Technology*, 25(109-125).
- Langlois, G. (2011). Meaning, Semiotologies and Participatory Media. *Culture Machine*, 12.
- Langlois, G. (2013a). Participatory Culture and the New Governance of Communication: The Paradox of Participatory Media. *Television & New Media*, 14(2), 91-105.
- Langlois, G. (2013b). Social Media, or towards a political economy of psychic like. In G. Lovink & M. Rasch (Eds.), *Unlike Us Reader: Social media monopolies and their alternatives* (pp. 50-60). Amsterdam: Institute of Network Cultures.
- Langlois, G., & Elmer, G. (2009). Wikipedia leeches? The promotion of traffic through a collaborative web format. *New Media & Society*, 11(5), 773-794.
- Langlois, G., Elmer, G., McKelvey, F., & Devereaux, Z. (2009). Networked Public: The Double Articulation of Code and Politics on Facebook. *Canadian Journal of Communication*, 34(3), 415-434.
- Lash, S. (2002). *Critique of information*: SAGE.
- Le Pechoux, B., Little, T. J., & Istook, C. L. (2007). Innovation management in creating new fashions. In T. Hines & M. Bruce (Eds.), *Fashion Marketing. Contemporary Issues* (pp. 188-216). London: Elsevier.
- Lee, A. S., & Baskerville, R. L. (2003). Generalizing generalizability in information system research. *Information Systems Research*, 14(3), 221-243.
- Lee, J.-E. R., Moore, D. C., Park, E.-A., & Park, S. G. (2012). Who wants to be "friend-rich"? Social compensatory friending on Facebook and the moderating role of public self-consciousness. *Computers in Human Behavior*, 28(3), 1036-1043

- Leonardi, P. M., Nardi, A. B., & Kallinikos, J. (2012). *Materiality and Organizing: Social Interaction in a Technological World*: OUP Oxford.
- Lessig, L. (2006). *Code*: Basic Books.
- Levine, D. N., & Simmel, G. (2011). *Georg Simmel on Individuality and Social Forms*: University of Chicago Press.
- Lin, K.-Y., & Lu, H.-P. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior*, 27, 1152-1161.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*: SAGE Publications.
- Lipovetsky, G., Porter, C., & Sennett, R. (2002). *The empire of fashion: dressing modern democracy*: Princeton University Press.
- Litt, E. (2012). Knock, Knock. Who's There? The Imagined Audience. *Journal of Broadcasting & Electronic Media*, 56(3), 330-345.
- Livingstone, J. (1998). Modern Subjectivity and Consumer Culture. In S. Strasser, M. C. & M. Judt (Eds.), *Consuming Desires: Consumption, Culture and the Pursuit of Happiness*. Cambridge: Cambridge University Press.
- Lovink, G., & Rasch, M. (2013). *Unlike us reader: social media monopolies and their alternative*. Amsterdam: Institute of Network Cultures.
- Lurie, A. (2000). *The language of clothes*: Henry Holt.
- Lyotard, J.-F. (1977). Energumen Capitalism. *Semiotext(e)*, 2(3), 11-26.
- Mackenzie, A. (2007). Protocols and the irreducible traces of embodiment: The Viterbi Algorithm and the mosaic of machine time. In R. Hassan & R. Purser (Eds.), *24/7: Time and Temporality in the Network Society* (pp. 89-106). Stanford, CA: Stanford University Press.
- Mackenzie, A. (2012). More parts than elements: how databases multiply. *Environment and Planning D: Society and Space*, 30(2), 335-350.
- MacNamara, J. (2010). 'Emergent' media and public communication: Understanding the changing mediascape *Public Communication Review*, 1(2), 3-17.
- Maffesoli, M. (1996). *The time of the tribes: the decline of individualism in mass society*: Sage.
- Malossi, G. (1998). *The style engine: spectacle, identity, design, and business : how the fashion industry uses style to create wealth*: Monacelli Press.
- Mandiberg, M. (2012). *The Social Media Reader*: New York University Press.
- Manovich, L. (2000). Database as a genre of new media. *Ai & society*, 14(2), 176-183.
- Manovich, L. (2002). *The language of new media*: MIT Press.
- Manovich, L. (2003). *Making art of databases*: V2_ publishing.
- Mansfield, N., & Mansfield, N. (2000). *Subjectivity: Theories of the Self from Freud to Haraway*: Allen & Unwin.
- Markus, H. R., & Kunda, Z. (1986). Stability and Malleability of the Self Concept. *Journal of Personality and Social Psychology*, 51(4), 858-866.
- Martin, R. H., & Koda, H. (1995). *Haute couture*. New York: Metropolitan Museum of Art.
- Marton, A. (2013). *Purposive Selection and the Quality of Qualitative IS Research*. Paper presented at the ICIS - International Conference on Information Systems, Milan.
- Marwick, A., & boyd, D. (2011). To See and Be Seen: Celebrity Practice on Twitter. *Convergence: The International Journal of Research into New Media Technologies*, 17(2), 139-158.
- Marwick, A., & Ellison, N. B. (2012). "There Isn't Wifi in Heaven!" Negotiating Visibility on Facebook Memorial Pages. *Journal of Broadcasting & Electronic Media*, 56(3), 378-400. doi: 10.1080/08838151.2012.705197
- McCracken, G. (1986). Culture and Consumption. A Theoretical Account of the Structure and Movement of the Cultural Meaning of Consumer Goods. *Journal of Consumer Research*, 13(1), 71-84.
- McKenna, K. Y., Green, A. S., & Gleason, M. E. (2002). Relationship formation on the Internet: Whats the big attraction? *Journal of Social Issues*, 58(1), 9-31.
- McRobbie, A. (1999). *In the culture society: art, fashion, and popular music*: Routledge.
- Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *Cyberpsychology, Behavior, and Social Networking*, 13(4), 357-364.
- Merton, R. K. (2012). On Sociological Theories of the Middle Range. In C. Calhoun (Ed.), *Classical Sociological Theory* (pp. 448-459): Wiley.
- Miller, D. (1997). *Material Culture and Mass Consumerism*: Wiley.
- Mingers, J. (2004). Realizing Information Systems: Critical realism as an underpinning philosophy for information systems. *Information and Organization*, 14(2), 87-103.

- Mingers, J., & Willcocks, L. (2014). An integrative semiotic framework for information systems: The social, personal and material worlds. *Information and Organization*, 24(1), 48-70.
- Morean, B. (2006). More Than Just a Fashion Magazine. *Current Sociology*, 54(5), 725-744.
- Morley, J., & McMahon, K. (2011, 11-16 April 2011). *Innovation, interaction, and inclusion: heritage luxury brands in collusion with the consumer*. Paper presented at the Fashion & Luxury: Between Heritage & Innovation, Paris.
- Muniesa, F. (2011). A flank movement in the understanding of valuation. *The Sociological Review*, 59, 24-38.
- Murray, J. B., & Ozanne, J. L. (1991). The critical imagination: emancipatory interests in consumer research. *Journal of Consumer Research*, 129-144.
- Okonkwo, U. (2007). *Luxury fashion branding: trends, tactics, techniques*: Palgrave Macmillan.
- Orlikowski, W. (2000). Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. *Organization Science*, 11(4), 404-428.
- Orth, U. R., McDaniel, M., Shellhammer, T., & Lopetcharat, K. (2004). Promoting Brand Benefits: The Role of Consumer Psychographics and Lifestyle. *Journal of Consumer Marketing*, 21(2), 97-108.
- Ozanne, J., & Murray, J. (1995). Uniting Critical Theory and Public Policy to Create the Reflexively Deafiant Consumer. *American Behavioral Scientist*, 38, 516-525.
- Papacharissi, Z. (2010). *A Networked self: identity, community, and culture on social network sites*: Routledge.
- Pariser, E. (2011). *The Filter Bubble: How the New Personalized Web Is Changing What We Read and How We Think*: Penguin Group US.
- Park, G. W., & Lessig, V. P. (1977). Students and Housewives: Differences in Susceptibility to Reference Groups Influence. *Journal of Consumer Research*, 4, 102-110.
- Payne, A., Storbacka, K., Frow, P., & Knox, S. (2009). Co-creating brands: Diagnosing and designing the relationship experience. *Journal of Business Research*, 62 (379-389).
- Pearson, E. (2009). All the World Wide Web's a stage: The performance of identity in online social networks. *First Monday*, 14(3-2), 1-16.
- Pine, B. J., & Gilmore, J. H. (2011). *The Experience Economy*: Harvard Business Review Press.
- Polhemus, T. (1996). *Style surfing: what to wear in the 3rd millennium*: Thames and Hudson.
- Polhemus, T. (2010). *Streetstyle*: PYMCA.
- Polhemus, T., & Procter, L. (1978). *Fashion & anti-fashion: anthropology of clothing and adornment*: Thames and Hudson.
- Raymond, M. (2007). The making and marketing of a trend. In T. Hines & M. Bruce (Eds.), *Fashion Marketing. Contemporary Issues* (pp. 297-307). London: Elsevier.
- Rokeach, M. (1976). *Beliefs, Attitudes and Values*: Jossey-Bass.
- Rose, N. (1991). Governing by Numbers: Figuring out Democracy. *Accounting, Organizations and Society*, 673-692.
- Rosenberg, M. (1979). *Conceiving the self*: Basic Books.
- Ross, A. (1971). Self Concept and Brand Preferences. *Journal of Business*, 44(1), 38-50.
- Salecl, R. (2011). *Choice*. London: Profile.
- Sayer, A. (1992). *Method in Social Science. A realist Approach*. London: Routledge.
- Schlenker, B. R. (1980). *Impression Management: The Self-concept, Social Identity, and Interpersonal Relations*: Brooks/Cole Publishing Company.
- Scholz, T. (2013). *Digital Labor: The Internet as Playground and Factory*: Routledge.
- Schouten, J. W. (1991). Selves in Transition: Symbolic Consumption in Personal Rites of Passage and Identity Reconstruction. *Journal of Consumer Research*, 17(4), 412-425.
- Schouten, J. W., & McAlexander, J. H. (1995). Subcultures of Consumption: An Ethnography of the New Bikers. *Journal of Consumer Research*, 22, 43-61.
- Schwartz, B. (2005). *The paradox of choice: why more is less*: HarperCollins.
- Schwartz, S. H., & Bilsky, W. (1987). Toward a Universal Psychological Structure of Human Values. *Journal of Personality and Social Psychology*, 53, 550-562.
- Schwarzkopf, S. (2011). The Political Theology of Consumer Sovereignty: Towards an Ontology of Consumer Society. *Theory, Culture & Society*, 28(3), 106-129.
- Scott, S. V., & Orlikowski, W. (2012a). Great Expectations: The Materiality of Commensurability in Social Media. In P. M. Leonardi, A. B. Nardi & J. Kallinikos (Eds.), *Materiality and organizing: Social interaction in a technological world* (pp. 113-133). Oxford: Blackwell.
- Scott, S. V., & Orlikowski, W. (2012b). Reconfiguring relations of accountability: Materialization of social media in the travel sector. *Accounting, Organizations and Society*, 37 26-40.

- Shih, C. C. (2009). *The Facebook Era: Tapping Online Social Networks to Build Better Products, Reach New Audiences, and Sell More Stuff*. Prentice Hall.
- Shirky, C. (2009). *Here comes everybody : how change happens when people come together*. London: Penguin UK.
- Simmel, G. (2003). The Philosophy of Fashion. In D. B. Clarke, M. A. Doel & K. M. L. Housiaux (Eds.), *The consumption reader* (pp. 238-245). London: Routledge.
- Simmel, G., & Frisby, D. (2011). *Philosophy of Money*: Taylor & Francis.
- Sirgy, M. J. (1982). Self-concept in consumer behavior: a critical review. *Journal of Consumer Research*, 287-300.
- Sismondo, S. (1993). Some Social Constructions. *Social Studies of Science*, 23, 515-553.
- Skågeby, J. (2009). Exploring Qualitative Sharing Practices of Social Metadata: Expanding the Attention Economy. *The Information Society*, 25(1), 60-72.
- Slater, D. (1997). *Consumer Culture and Modernity*: Wiley.
- Slater, D. (2002a). Capturing Markets from the Economists. In P. Du Gay & M. Pryke (Eds.), *Cultural Economy: Cultural Analysis and Commercial Life* (pp. 59-77). London: Sage.
- Slater, D. (2002b). From Calculation to Alienation: Disentangling Economic Abstractions. *Economy and Society*, 31(234-249).
- Slater, D. (2005). The sociology of consumption and lifestyle. In C. Calhoun, C. Rojek & B. S. Turner (Eds.), *The Sage Handbook of Sociology* (pp. 174-187). London: SAGE Publications.
- Slater, D. (2011). Marketing as a Monstrosity: The Impossible Place between Culture and Economy. In D. Zwick & J. Cayla (Eds.), *Inside Marketing: Practices, Ideologies, Devices*: OUP Oxford.
- Smith, P. R., & Zook, Z. (2011). *Marketing Communications: Integrating Offline and Online with Social Media*: Kogan Page.
- Solomon, M. R., Zaichkowsky, J. L., Dahl, D. W., Polegato, R., & White, K. (2013). *Consumer Behaviour: Buying, Having, and Being, Sixth Canadian Edition*: Pearson Education Canada.
- Sontag, S. (1966). *Against Interpretation: And Other Essays*: Picador.
- Spieker, S. (2008). *The big archive: art from bureaucracyArt: cultural studies* (illustrated ed.): MIT Press.
- Sterling, B. (2005). *Shaping Things*: Mit Press.
- Stiegler, B. (2012). *Uncontrollable Societies of Disaffected Individuals: Disbelief and Discredit*: Wiley.
- Stiegler, B. (2013). The most precious good in the era of social technologies. In G. Lovink & M. Marsh (Eds.), *Unlike Us Reader. Social media monopolies and their alternatives* (pp. 16-30). Amsterdam: Institute of Networked Culture.
- Stone, A. R. (1991). Will the real body please stand up? Boundary stories about virtual cultures. In M. Benedikt (Ed.), *Cyberspace: First Steps* (pp. 81-118). Cambridge, MA: The MIT Press.
- Stone, G. P. (1959). *Clothing and social relations: a study of appearance in the context of community life*: Univ. of Chicago, Dept. of Sociology.
- Stone, G. P., & Farberman, H. A. (1970). *Social psychology through symbolic interaction*: Ginn-Blaisdell.
- Strauss, A., & Corbin, J. M. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*: SAGE Publications.
- Stutzman, F., Capra, R., & Thompson, J. (2011). Factors mediating disclosure in social network sites. *Computers in Human Behavior*, 27 590-598.
- Sundén, J. (2003). *Material virtualities: approaching online textual embodiment*: P. Lang.
- Surowiecki, J. (2005). *The Wisdom of Crowds*: Knopf Doubleday Publishing Group.
- Svendsen, L., & Irons, J. (2006). *Fashion: A Philosophy*: Reaktion Books.
- Svenonius, E. (2000). *The intellectual foundation of information organization* (illustrated ed.). Cambridge, Mass.: MIT Press.
- Terranova, T. (2004). *Network culture: politics for the information age*: Pluto Press.
- Terranova, T. (2006). *Cultura del network. Per una micropolitica dell'informazione*: Manifestolibri.
- Thompson, C. J., & Hirschman, E. C. (1995). Understanding the Socialized Body: A Poststructuralist Analysis of Consumers' Self-Conceptions, Body Images, and Self-Care Practices. *Journal of Consumer Research*, 22(2), 139-153.
- Turkle, S. (1995). *Life on the screen: identity in the age of the Internet*: Simon & Schuster.
- Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.
- Turow, J. (2012). *The daily you: How the new advertising industry is defining your identity and your worth*: Yale University Press.

- Tynan, C., McKechnie, S., & Chhuon, C. (2010). Co-creating value for luxury brands. *Journal of Business Research*, 63, 1156-1163.
- Üstüner, T., & Thompson, C. J. (2012). How Marketplace Performances Produce Interdependent Status Games and Contested Forms of Symbolic Capital. *Journal of Consumer Research*, 38(5), 796-814.
- Vallor, S. (2012). Flourishing on facebook: virtue friendship & new social media. *Ethics and Information Technology*, 14(3), 185-199.
- van Dijck, J. (2013). *The Culture of Connectivity: A Critical History of Social Media*: OUP USA.
- Vardi, M. Y., Barland, I., & McMahan, B. (2006). *Logic and Database Queries*.
<http://www.cs.rice.edu/~tlogic/Database/all-lectures.pdf>
- Vigneron, F., & Johnson, L. W. (1999). A Review and a Conceptual Framework of Prestige-Seeking Consumer Behavior. *Academy of Marketing Science Review*, 1.
- Vigneron, F., & Johnson, L. W. (2004). Measuring perceptions of brand luxury. *Brand Management*, 11 (6), 484-506.
- Vinson, D., Scott, J., & Lamont, L. (1977). The Role of Personal Values in Marketing and Consumer Research. *Journal of Marketing*, 41, 45-50.
- Waskul, D., & Douglass, M. (1997). Cyberself: The emergence of self in on-line chat. *The Information Society*, 13(4), 375-396.
- Weber, M., Roth, G., & Wittich, C. (1978). *Economy and Society: An Outline of Interpretive Sociology*: University of California Press.
- Weinberger, D. (2005). *Taxonomies to tags: From trees to piles of leaves*: EDventure Holdings.
- Weinberger, D. (2008). *Everything Is Miscellaneous: The Power of the New Digital Disorder*: Henry Holt.
- Welters, L., & Lillethun, A. (2011). *The Fashion Reader: Second Edition*: Berg Publishers.
- Wilcox, K., & Stephen, A. T. (2013). Are Close Friends the Enemy? Online Social Networks, Self-Esteem, and Self-Control. *Journal of Consumer Research*, 40(1), 90-103.
- Wilson, E. (1987). *Adorned in dreams: fashion and modernity*: University of California Press.
- Woodward, I. (2011). Towards an object-relations theory of consumerism: The aesthetics of desire and the unfolding materiality of social life. *Journal of Consumer Culture*, 11(3), 366-384.
- Yin, R. K. (2009). *Case Study Research: Design and Methods*: Sage Publications.
- Zimmer, M. (2008). *The Externalities of Search 2.0: The Emerging Privacy Threats when the Drive for the Perfect Search Engine meets Web 2.0*. First Monday, mar. 2008.
- Zuboff, S. (1988). *In the age of the smart machine: the future of work and power*: Basic Books.
- Zwick, D., & Cayla, J. (2011). *Inside Marketing: Practices, Ideologies, Devices*: OUP Oxford.
- Zwick, D., & Denegri Knott, J. (2009). Manufacturing Customers: The database as new means of production. *Journal of Consumer Culture*, 9(2), 221-247.
- Zwick, D., & Dholakia, N. (2004). Consumer subjectivity in the Age of Internet: the radical concept of marketing control through customer relationship management. *Information and Organization*, 14(3), 211-236.
- Zwier, S., Araujo, T., Boukes, M., & Willemsen, L. (2011). Boundaries to the articulation of possible selves through social networking sites: the case of Facebook profilers' social connectedness. *Cyberpsychol Behav Soc Netw*, 14(10), 571-576.

