

# Chapter 10

## Digital Fashion Competences: Market Practices and Needs



Nadzeya Kalbaska and Lorenzo Cantoni

**Abstract** Digital practices in fashion are gaining more attention, starting from digital communication, online reputation, up to eCommerce. Such highly moving dynamics—related both to the fashion market as well as to new available technologies and communication tools—require well-prepared and skilled employees, able to navigate in this constantly changing environment with needed competences, updated knowledge, and creativity. Within this study, current market needs in the field of digital fashion are investigated through the analysis of the open job positions published on LinkedIn. In particular, needed skills and competences to join digital departments of fashion companies are examined.

**Keywords** Digital fashion · Fashion education · Skills and competences  
Training needs

### 10.1 Introduction

Information and Communication Technologies (ICTs) are having a major impact onto everyday life and most businesses. Similar to other industries, fashion is undergoing the process of adaptation to the digital world on different levels (Business of Fashion 2016): garments production cycles, management and sales, as well as communication with the help of digital tools.

In order to respond to ever-increasing needs and expectations of the customers, as well as to adapt to the changing management structures new professional roles within fashion appeared in recent years. Indeed, as technology and fashion are among the fastest growing sectors in the world economy, there is an important demand of the

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N. Kalbaska (✉) · L. Cantoni

Institute of Communication Technologies, Faculty of Communication Sciences, USI - Università della Svizzera italiana, via Buffi 13, 6900 Lugano, Switzerland  
e-mail: nadzeya.kalbaska@usi.ch

L. Cantoni

e-mail: lorenzo.cantoni@usi.ch

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employees with combined fashion, business background, analytical and ICT skills, making them very desirable additional elements in the companies. Fashion businesses are struggling to find the right employees with appropriate mixture of technical, IT, and analytical skills. According to the Fashion Retail Academy, in 2016 there has been a shortage of skills in the fashion domain: with fashion retailers lacking 57% in technical and IT skills, 46% in analytical skills, and 35% struggling to find staff with appropriate eCommerce business skills (Fashion United 2016).

Due to the constantly changing needs on the new skills and competences, updated curricula that can help to fill such skills gaps in the industry are needed at both fashion schools at the vocational level as well as in the academia at the (post)-graduate level. This has called in recent years for an adequate inclusion of digital fashion related topics and skills within academic curricula. Caring for the future of digital fashion is equal to caring for balanced and adequate training practices for future professionals in the fashion domain. To do so, continuous improvements and updates of the training curricula are needed.

Neglecting the fast growth and importance of the digital fashion industry, few academic studies are available that provide reliable maps of what are the market needs in terms of the new professional roles, but also needed skills and competences in the domain, so to discern educational and needed training trends and to support managerial decisions.

While the main goal of this research is to assess market practices and needs when it comes to digital fashion related skills and competences, it will answer the following research questions:

*What are the specific job roles within digital fashion domain?*

*What are the skills and competences needed today in the digital fashion domain?*

Determining relevant competencies and skill sets on one hand can help human resource managers to improve hiring and selection practices, to develop strategies in order to retain managers, and in supporting career planning initiatives. On the other hand, the understanding of current market practices and needs in the digital fashion domain, and the determined competences and skills sets can point to needed changes in the curriculum reform in fashion studies. It will eventually guide the definition of higher and/or continuous education curricula in digital fashion and on-the-job training within fashion companies.

## **10.2 Background**

### ***10.2.1 Digital Fashion***

Digital fashion is the interaction between information and communication technologies (ICTs) and the fashion domain. The global fashion market has been valued 3 trillion dollars in 2017, and accounts for 2% of the global GDP (Fashion United

2017). According to the eCommerce Foundation Report (2016), 15% of all global sales from fashion companies in 2016 were generated by eCommerce.

Digital fashion is the interplay between digital technology and couture. ICTs have been deeply integrated both into the fashion industry as well as within the experience of clients and prospects. Such interplay has happened at three main levels:

- ICTs used in the production cycle: to design and produce fashion products, while also the industry organization leverages onto digital technologies;
- ICTs impact marketing, distribution and sales;
- ICTs are extensively used in communication activities with all relevant stakeholders, and contribute to the co-creation of the fashion online environment.

In the production cycle, digital technologies are being used in the fabrics manufacturing. Digital tools support creativity of the fashion designers, as well as make it easier for them to develop a large variety of prints. Recently 3D Printing started to be used both by the companies in their production of the garment, and by the end users, while giving them a possibility to design and/or print their fashion products at home (Hoskins 2013; Vanderploeg et al. 2016).

At the same time, digital fashion includes also digital practices in the physical shops (Bethan et al. 2017) as well as eCommerce or the online sales of the fashion items. eCommerce in the fashion domain (Escobar-Rodríguez and Bonsón-Fernández 2016; Taylor 2016) provides the following opportunities:

- (i) offering a wider variety of products to the customers compared to the ones sold in store;
- (ii) exploiting new geographical distribution;
- (iii) exploiting the relationship with traditional customers in new ways (e.g. customers can experience the brand not only in a physical store but also when they are at home);
- (iv) offering a customized shopping experience to the clients.

Currently fashion companies are also using extensively digital tools to communicate with potential and current publics in the addition to the traditional media channels used for fashion communication, which include television, cinema, magazines and newspapers, advertising outdoor, and transport (Rocamora 2017).

Digital fashion communication includes communicating brands, designers, and clothes online (Sadaba 2015), while reaching potential customers through official media channels: own websites and mobile applications. Meanwhile in recent years, also User Generated Contents have started to play a major role in the fashion communication domain (Dennison and Montecchi 2017; Montecchi and Nobbs 2017; Wolny and Mueller 2013).

Beside the dynamics of single users/laypeople co-creating the image (and reputation) of brands, and shaping the very concept of what is fashionable (and what is not), Social Media Systems are also used by famous bloggers, celebrities, and social media influencers, who are helping companies to communicate in new ways (Halvorsen et al. 2013; Hong and Kim 2014; Park et al. 2016; San Miguel and Sadaba 2015). Moreover, companies have received the opportunity to better “listen” to their

clients and prospects, by following them during their daily activities through social networks (Facebook, Pinterest, Twitter, Instagram, Weibo, Vkontakte, and others). There is a crucial change not just *where the brands communicate*, but especially *how they communicate* (Business of Fashion 2016; Rocamora 2017), thus the connection with consumers is more challenging.

Late technological developments have increased the number of channels through which customers interact, made faster the pace of customer demands, expanded the amount of data available, as well as enhanced the intensity of the competitive environment. Thus, the understanding of the new customer, also through all available data that the customer leaves, as well as the development of analytical skills and competences might become crucial in the domain.

While digital fashion is a major emerging trend, and there is a strong industry interest in the domain of digital fashion communication, the academic research and the educational offer in the related field are on their initial stages.

Based on the changes happening in the fashion industry, the specific skills that are required by the employees of the industry are also changing. Currently employers in the fashion industry tend to choose new employees that are skillful in information technology, being innovative and creative (Chida and Brown 2011). Unfortunately, the exact set of skills and competences that are on demand today in the digital fashion domain is still unclear and under-researched, thus, this became a main mission of the current research.

### ***10.2.2 Methodology***

While assessing which ICT-related skills are crucial to work in the digital fashion domain, it is important to solicit efforts from principal stakeholders such as future employers, educators, and alumni themselves. In this research the industry perspective will be taken into consideration while examining available job offers.

Digital fashion related jobs were analyzed through LinkedIn, a business- and employment-oriented social networking service. LinkedIn is being extensively used for professional networking, including employers posting jobs and job seekers posting their CVs (Rapanta and Cantoni 2016). The crawling of available job positions was done in 29 countries, including 28 European Union countries and Switzerland. Two analyses of the publicly available job positions were undertaken: the first one in the period from 09.01.2017 to 19.01.2017, and the second one from 06.02.2017 to 16.02.2017.

The search on LinkedIn was done using the following keywords: Digital Fashion, Digital Media, Digital Marketing, eCommerce, Social Media, eFashion. While then job listings only from the following industries were taken into consideration: Apparel and Fashion, Internet, Luxury Goods and Jewelry, Marketing and Advertising, Retail, and Textiles.

In the data cleaning phase, automatic separation of English job postings from other languages was undergone, followed by the automatic removal of duplicates based on the available published Job ID. The positions offered twice, or more times, for

instance by the fashion brand itself and an HR company were taken into consideration only once.

The following job posting attributes were considered: job title, job link, company name, location, publication date, job description, industry the job belongs to.

### **10.2.3 Research Results**

Through the analysis of digital fashion related positions on LinkedIn in 28 countries of the European Union and in Switzerland 1427 job listings were found. Quantitative content analysis of job titles and job descriptions was then performed using Word Smith Tools 6. This tool allows to create concordances within a textual corpus, and to study frequently co-located couples of words.

The results are presented below, starting from the introduction to the number of available positions in every country, followed by the analysis of available job titles in the digital fashion domain, and concluded with the analysis of the digital fashion skills extracted from job descriptions.

#### **a. Available jobs in the digital fashion domain**

Through the search of digital fashion related positions on LinkedIn, 1427 job listings were found in the European Union and Switzerland. No positions were found in the following countries: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia, and Slovenia.

In Table 10.1. we can see the list of countries where digital fashion positions were advertised on LinkedIn in the first two months of 2017, with the respective number of available job positions.

These results should be carefully evaluated due to the fact that the analysis was undertaken only on the dataset in English. This might have had an impact on the number of available positions for instance in France, Italy, Spain, or Switzerland, where the jobs might be advertised in national languages.

From this analysis we can conclude that the hubs of the digital fashion domain today in Europe are the United Kingdom, Germany, and The Netherlands, followed by Sweden, France, and Switzerland.

Two searches of the job positions were undertaken: on 09.01.2017–19.01.2017; and on 06.02.2017–16.02.2017. This repetition was done in order to evaluate the number of positions that remained open in the chosen period. Indeed 71 positions available at the first analysis were still open at the second one exactly one month later. This number suggests that the job market in the digital fashion domain is very fast, where the positions are quickly filled in.

#### **b. Digital fashion related skills in job titles**

In order to understand and evaluate specific skills as expressed in job titles that are on request today within the digital fashion domain, quantitative content analysis was then performed, using Word Smith Tools 6.

**Table 10.1** Number of digital fashion jobs

Countries	Frequencies
Austria	4
Belgium	24
Denmark	10
Finland	1
France	34
Germany	144
Greece	7
Hungary	1
Ireland	19
Italy	18
Netherlands	96
Poland	2
Portugal	11
Spain	15
Sweden	40
Switzerland	25
United Kingdom	976

In the Table 10.2. the combinations of the most frequent keywords among the job titles in the digital fashion domain are introduced.

We might see the following most frequent combinations: “digital marketing”, followed by “social media”—representing two most desired areas of jobs (be it at the level of assistant, manager, director, ...). The keywords that represent professions, such as “digital designer”, “graphic designer”, “eCommerce manager”, “media manager”, “project manager”, and “account manager” follow.

### c. Digital fashion skills in job descriptions

In Table 10.3. the combinations of the most frequent keywords among the job descriptions in the digital fashion domain are introduced along with the number of times these combinations have appeared in the database. These combinations of keywords help us to recognize what are the main skills and competences on demand today on the market.

By far, the first required competence today in the domain deals with “social media”. The ability to manage social media accounts (4866 repetition), profiles, and strategies has appeared on the first position in terms of the repetition of the keywords combination in the database. This result is not surprising given the importance of social media not only for the fashion brands, but also for fashion individual designers, due to its use during catwalks, and fashion shows. The knowledge of digital marketing (2324), and previous experience to managing eCommerce projects (1867) do also frequently appear in the job descriptions.

**Table 10.2** Digital fashion skills in job titles

Keywords combinations	#
Digital marketing	297
Social media	263
Digital designer	106
Graphic designer	102
eCommerce manager	82
Media manager	71
Project manager	58
Account manager	55
Fashion brand	50
Customer care	48
Account executive	48
Customer service	47
PR manager	42
Luxury fashion	40
Digital analyst	40
Email marketing	39
Online marketing	35
Brand marketing	33
Sales manager	32
Product manager	31

Communication abilities and skills are playing a curial role (1438) today among current employers looking for the new entrants in their digital departments. The mention of “communication skills”, whether as a category or more specifically as oral and written communications is common in the requests. The ability to speak to the customers for instance on social media, with other employees, or managers is a skill needed and used on a daily basis. Furthermore, being able to communicate ideas through digital channels often involves writing skills. Experts in content creation, who are able to drive more engagement with the brand, and as a result commercialization of social media, are on high demand today. Thus, communication skills are crucial in the fashion and apparel industry, which is considered to be one of the most globalized industries.

Communication skills were followed by a request of the new employees with strong customer focused service and user centric attitude (631). The skill sets, as the ability to resolve customer problems or manage guest problems with understanding and sensitivity were cited. Other soft skills, such as project management skills (430) and being able to work well in a team (360) are also required.

The employees in the sector need to have general operational skills in managing marketing campaigns (597), as well as to be able to run email marketing campaigns

**Table 10.3** Digital fashion skills in job descriptions

Keywords combinations	#
Social media	4,866
Digital marketing	2,324
eCommerce	1,867
Communication skills	1,438
Customer service/care	759
Customer/user experience	631
Marketing campaigns	597
Web analytics (including Google analytics)	532
Email marketing	509
Project management	430
Online fashion	381
Team player	360
Digital content (Creation)	313
Digital media	274
Luxury fashion	249
Analytical skills	245
Marketing channels	214
Paid search	213
Multi channel	210

(509), be the experts in the paid search/search engine marketing (203), as well as able to manage digital campaigns across different media channels (210).

Understanding of the online fashion domain (381) and luxury fashion (249) are also requested today. The experts in the digital fashion fields, need also to have an overview of the domain they are working, and be up-to-date on the latest in terms of developments, luxury domain, garments, and textiles.

Current employees in the digital fashion sector are expected to be competent not just in understanding technology, they need to be able to analyze and interpret big data, for instance through web analytics tools (532), so to improve business strategy and competency, as well as to be able to do trend prediction and forecasting. This might require certain previous preparation in research, analysis, problem solving, as well as critical reflection abilities.

Surprisingly, no important mentioning of digital technologies to be used in the production cycle or in eCommerce were found in our research. We have expected to see bigger presence of the available request of the new employees working with 3D printing, augmented reality, safe payment systems or logistics for the eCommerce. Thus, we can assume that such skills are still not highly requested by the industry, but we believe, the number of such jobs will increase in the nearest future following fast developments in the industry. In case the companies wouldn't be able to hire the employees in such fields, they will need to outsource the skills from specialized agencies.



## 10.3 Conclusion

Due to the fast developments in both sub-domains, fashion and ICTs, the digital fashion domain is a very competitive field. In order to become successful here the employees must have not only talent and creativity, but also needed skills and competences.

Thanks to this research, we can conclude that fashion industry is a very dynamic one, where the number of job positions is very high and the speed with which they are being taken is impressive. Digital fashion roles require both analytical and creative skills, but also the knowledge of some tools at the operational level, for instance social media or paid search. Successful candidates should have a strong attitude as well as passion for the digital world. Central to such roles is not only the need of having IT, technology, and analytical skills, not only to keep up, but also to stay ahead of other, so to be able to push both involved industries forward. At the same time the employees in the digital fashion domain should have an understanding and the sensibility about the industry they are going to enter.

Since this topic has never been explored before the results of this research and its findings will have an implication on the research community interested in the digital communication as it helps to map and evaluate knowledge acquisition and needed competences within online communication and eCommerce in the fashion domain. They also have practical impact for those in charge of the curriculum design and development within higher educational institutions, as well as those developing life-long learning training activities within fashion brands.

Given that digital fashion domain might see further significant growth and advances, which will be affecting all the fashion industry, fashion educators need to make sure that the ICTs-related skills needed by the job market are duly covered by the overall curriculum and courses' syllabus. Thus, digital fashion education and training must aim to enhance the ability of their students to use a wide range of tools to increase their efficiency and responsiveness to a very dynamic market's needs.

### 10.3.1 *Limitations and Future Research*

The following limitation of this study should be mentioned: as this research is based on a single platform, LinkedIn professional social network, the results of the study cannot be generalized without extreme caution, while its methodology, on the contrary, can be fully—and, as we hope, fruitfully—replicated in similar cases.

Furthermore, only job positions in English were taken into consideration within this study. We do acknowledge that further search in other European languages might have brought different results. For instance, the number of available jobs in the digital fashion domain in France, Italy, Spain, Switzerland, or Portugal, might have had been different.

Being a very dynamic domain by nature, it is likely that the competences and skills desired by digital fashion professionals will be evolving in the following years, due to the changes in the available technologies, online communication tools, and in the structure of the fashion industry. Thus, a longitudinal study would be advisable, so to evaluate the changes happening in the searches for the employees in the digital fashion domain.

There is also the need to further research perspectives from the fashion industry sectors, fashion alumni themselves and the educators in the field regarding the skills and competences in ICTs they see as important for the employees to have.

## References

- Bethan, A., & Olivares Alvarado, D. (2017). Convergence of physical and virtual retail spaces: The influence of technology on consumer in-store experience. In A. Vecchi (Ed.), *Advanced fashion technology and operations management* (pp. 191–219). IGI Global.
- Business of Fashion. (2016). The digital Iceberg. Retrieved September 2017, from <https://www.businessoffashion.com/articles/fashion-tech/the-digital-iceberg-luxury-fashion-marketing>.
- Chida, M., & Brown, G. (2011). Evaluating the gap between industry assessment of job readiness and graduation standards in higher education institutions: The case of fashion studies. *International Journal of Fashion Design Technology and Education Technology and Education* (2), 71–82.
- Dennison, J. A., & Montecchi, M. (2017). The effects of online consumer reviews on fashion clothing purchase intention: Peripheral cues and the moderating role of involvement. In A. Vecchi (Ed.), *Advanced fashion technology and operations management* (pp. 318–347). IGI Global.
- Ecommerce foundation. (2016). *Global B2C eCommerce report*. Retrieved April 2017, from <http://www.ecommercefoundation.org/reports>.
- Escobar-Rodríguez, T., & Bonsón-Fernández, R. (2016). Analysing online purchase intention in spain: Fashion e-commerce. *Information Systems and e-Business Management* (pp. 1–24).
- Fashion United. (2016). *As Fashion Goes Digital, Skills Must Adapt*. Retrieved April 2017, from <https://fashionunited.uk/news/retail/as-fashion-goes-digital-skills-must-adapt/2016091921820>.
- Fashion United. (2017). *Global fashion industry statistics—International apparel*. Retrieved March 2017, from <http://fashionunited.com/global-fashion-industry-statistics>.
- Halvorsen, K., Hoffmann, J., Coste-Manière, I., & Stankeviciute, R. (2013). Can fashion blogs function as a marketing tool to influence consumer behavior? Evidence from norway. *Journal of Global Fashion Marketing*, 4(3), 211–224.
- Hong, H. R., & Kim, Y. I. (2014). Communication characteristics of fashion shows using digital images. *Journal of the Korean Society of Costume*, 64(6), 1–15.
- Hoskins, S. (2013). *3D printing for artists, designers and makers*. Bloomsbury.
- Montecchi, M., & Nobbs, K. (2017). Let it go: Consumer empowerment and user-generated content—An exploratory study of contemporary fashion marketing practices in the digital age. In A. Vecchi (Ed.), *Advanced fashion technology and operations management* (pp. 294–317). IGI Global.
- Park, J., Ciampaglia, G. L., & Ferrara, E. (2016). Style in the age of instagram: Predicting success within the fashion industry using social media. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing* (pp. 64–73). ACM.
- Rapanta, C., & Cantoni, L. (2016). The linkedin endorsement game: Why and how professionals attribute skills to others. *Business and Professional Communication Quarterly*, 1–17.
- Rocamora, A. (2017). Mediatization and digital media in the field of fashion. *Fashion Theory*, 21(5), 505–522.

- SanMiguel, P., & Sadaba, T. (2015). Fashion influentials: Prescripcion y liderazgo en moda. In T. Sadaba (Ed.), *Moda e nil entorno digital* (pp. 111–122). Navarra, Spain: Ediciones Universidad de Navarra.
- Sadaba, T. (2015). *Moda e nil entorno digital* (p. 187). Navarra, Spain: Ediciones Universidad de Navarra.
- Taylor, E. (2016). Mobile payment technologies in retail: A review of potential benefits and risks. *International Journal of Retail & Distribution Management*, 44(2), 159–177.
- Vanderploeg, A., Lee, S. E., & Mamp, M. (2016). The application of 3D printing technology in the fashion industry. *International Journal of Fashion Design, Technology and Education*, 1–10.
- Wolny, J., & Mueller, C. (2013). Analysis of fashion consumers' motives to engage in electronic word-of-mouth communication through social media platforms. *Journal of Marketing Management*, 29(5–6), 562–583.