CROSS-FUNCTIONAL SKILLS OF THE FASHION INDUSTRY PROFESSIONAL: T-SHAPED PERSON SKILLS FRAMEWORK FOR THE FASHION PROFESSIONAL

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And hereby certify that, in their opinion, it is worthy of acceptance.

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Dr. Tony Castro

To Jerica, Jillian and Shellie – your love, encouragement and support fuels my journey

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ABSTRACT

The fashion industry is experiencing rapid changes due to innovative technologies, complex globalization of the supply chain, and evolving consumer behaviors. Skill needs are also evolving, and organizations require professionals to have technical expertise and the ability to adapt quickly to the fast-paced environment. Employers have noted that fashion students are not fully prepared for the workforce, and educators have pledged to prepare students for the industry's future skill needs.

While technical skills are often a focus in fashion and industry training, softer skills such as adaptability and collaboration are more challenging to define with regards to the industry's needs and teaching opportunities. Those skills that are non-technical are often referred to as cross-functional skills. However, a clear definition of 'cross-functional skills' in terms of fashion worker aptitudes seems to be lacking. Establishing this definition is the first step to identifying the industry's current and future skill needs.

Articles and other findings have explored fashion skill needs. However, there is a gap in the research for a theoretical framework to support the technical and cross-functional skills required of professionals to meet job expectations and organizational objectives. With the CF skill definition established, a content analysis and empirical study of skills required by the industry leads to the proposal of the T-shaped person skills framework for the fashion professional.

Chapter I: Introduction

Chapter I contains the following sections: (a) background of the study, (b) purpose of the study, and (c) significance of the study.

Background of the study

Changing consumer behaviors, complex globalization, and increasing digitalization are rapidly changing how the world is doing business. Business leaders in the fashion industry are moving away from traditional business strategies and processes to keep up with advancing technologies and evolving consumer behaviors. The State of Fashion 2019 report details the new and future challenges facing the fashion industry caused by digitalization, economic and global evolutions, and the growing dominance of the consumer as the driving force for fashion. According to the report, the shift to other supply chain strategies that can better meet consumer demands, “requires a very different mindset and skillset — more consumer-oriented and more agile" (Andersson et al., page 90, para 1-2, 2019). Aside from the traditional occupation expertise, the fashion industry is calling for employees who are adaptable, collaborative, high performers in a fast-paced environment and knowledgeable about other functions across the supply chain (Chi, Lui, Salusso, McCracken, 2018; Modenlek, 2019; Demirkan & Spohrer, 2015; Khan, 2020).

Increased awareness of the responsibility of academic programs and curriculum to better prepare students for employment in the fashion industry has been acknowledged and remains a focus for ITAA (International Textile and Apparel Association) meta-goals (Frazier & Cheeks, 2015). However, industry employers and recent graduates still see deficiencies in the preparedness of fashion students for the corporate workforce (Chi, Lui,

Salusso, McCracken, 2018). In a 2018 report "The State of Skills in the Apparel Industry," managers specifically stated that there is a void between what industry students are taught in school and the reality of the industry's workplace (Alvanon, 2018).

Eunyoung (2010) defined fashion professionals as "trained and experienced individuals in apparel and accessories design and manufacturing companies who employ apparel or accessories product designers in the United States…" (p. 10). Fashion professionals are uniquely challenged by the disruption of the global economy, trade relations, rapidly evolving technologies, and drive for sustainability across the industry's supply chain. The fashion industry is also becoming largely consumer-centric and must innovate quickly and constantly to meet consumers' product, service, and experience needs (McKinsey & Company, 2019; BoF, 2019).

A *Forbes* article by Michele Lee (2019) states that a recent survey revealed that "corporate executives spanning multiple global industries consider the current corporate employees' skill sets mismatched to those skill sets needed for the future". Within the fashion industry specifically, the rate of change in the industry is requiring workers to have new skills (Alvanon, 2018). Fashion industry executives globally rank "reinventing careers and learning" as the second most critical business issue behind going digital, with 83% saying it is urgent (Cole, 2019). As digitalization and technology, such as artificial intelligence (AI), drive the industrial revolution of the fashion industry, a retiring skilled workforce is also bringing challenges to industry businesses. Retiring fashion professionals have skill sets that companies are failing to leverage and will be difficult to maintain with a new generation of workers (Cole, 2019). Also, job functions are

overlapping roles and career paths in the fashion industry are becoming less traditionally linear (McKinsey & Company, 2019; BoF, 2019).

The consequences of the fore-mentioned industry disruption are that organizations are having to adapt strategies, organizational structures, and workforce competencies to become more agile and flexible across the supply chain. As organizational structures begin to align with consumer-centric strategies and technology capabilities, role functions have been changing and the need for more adaptive, and collaborative employees is becoming increasingly important. Professionals with a single expertise are no longer enough for innovating businesses. Those workers skilled in collaboration, teamwork, communication, decision-making, critical thinking, and leadership are becoming increasingly important to the growth of companies. Companies often refer to these new skills as cross-functional skills, and these skills are becoming necessary for employees to achieve job expectations and ensure job stability (Pearlman, 1997).

Cross-functional skill (CF) is a commonly used term for those skills needed outside one's technical job skills, but current findings largely focus on defining the term in the context of team skills instead of individual workers' skills (Fredricks, 2005). One of the first definitions of the term ‘cross-functional skill’ was presented by the International Conference of Education and Psychology Challenges in 2015. In reference to skill integrations, the article called out the controversy caused by the commonality status of the term due to the use by industries with no clear definition of what cross-functional skills are. This particular study provided no evidentiary support for the mentioned definition (Safta, 2015). With little empirical evidence of what cross-functional means, and more specifically, the definition of cross-functional skills with

regards to fashion workers, there is a significant limitation on the ability for professionals to adequately identify and develop the desired skills outside their T job skills.

In addition to the professional development limitations resulting from a lack of clarity on what CF skills are and which CF skills are required, there is a gap in academic research across the fashion industry. Investigation of existing studies defining 'cross-functional' found limited evidence of the term as applied specifically to the fashion industry. Also, 'cross-functional' has been defined within the context as a descriptor of team attributes across disciplines, but little evidence suggests that this same context for 'cross-functional' has been broadly applied to individual worker skills, and specifically, fashion professionals. This suggests a lack of a clear definition of cross-functional skills for the fashion industry, preventing proper implementation of curriculum, assessment of learning outcomes, and student preparedness for the workplace.

Purpose of the study

The purpose of this study is two-fold. The first is to propose a formal definition of the commonly-used term 'cross-functional (CF) skills' to identify what skills are necessary for fashion professionals to adapt to the evolving fashion industry. The additional purpose of the study is to propose the T-shaped person framework for the fashion industry professional through the discovery of what skills are desired by the industry for fashion professionals. To develop a proposed theoretical skills framework as one of the desired outcomes, the study will explore skill requirements from two steps in the study's methodology.

Step 1 will examine:

(a) What skills within one's specific disciplinary domain, or technical skills, are requested when recruiting fashion professionals, and

(b) What skills outside of one's specific disciplinary domain, or cross-functional skills, are requested when recruiting fashion professionals.

Step 2 will empirically test Step 1 results by exploring:

(a) What skills within one's specific disciplinary domain, or technical skills, are necessary to perform and adapt in the fashion industry?

(b) What skills outside of one's specific disciplinary domain, or cross-functional skills, are necessary to perform and adapt in the fashion industry?

Significance of the study

By achieving the two-fold purpose of the study, findings will enable future research to validate this definition of CF skills with empirical support and evidence. Given that the fashion industry is so fragmented and globalized, CF skills are critical. The researcher proposes that the definition and validation of CF skills required in the fashion industry will help address deficiencies in curriculum and assessment of learning outcomes, as well as student preparedness for the job market and workplace. Industry contributions would include evaluating corporate training needs in existing workforces and correlation of CF skilled workers' performances to firms' profitability.

Key Terms

Cross-functional	Involving people or departments who do different types of work for the same company (*Cambridge Business English Dictionary, n.d.).*
Definition	"a statement of the meaning of a word or word group or a sign or symbol" (*Merriam Webster*, n.d.).
Fashion Industry	The fashion industry consists of four levels: the production of raw materials, principally fibers and textiles but also leather and fur; the production of fashion goods by designers, manufacturers, contractors, and others; retail sales; and various forms of advertising and promotion (Steele, n.d.).
Fashion professional	"...a trained person in a compensated role in the global fashion supply chain to perform functions in design, development, sourcing, logistics, trade policies, trade compliance, retail, marketing, and any related areas, which involves prolonged training and a formal qualification" (Eunyoung, 2010, pg 10).
Skill	The ability to do something well, usually as a result of experience and training (*MacMillian Dictionary*, n.d.).
Skills framework	[A skills framework] "includes both 'hard' or 'technical' skills, which are discipline specific…and 'soft' or 'transferable' skills such as communication, leadership, and teamwork (Brown, 2020).
T-shaped person	[T-shaped person has] "a breadth of knowledge and experience that enables faster adaptation and role changes, in addition to better communication skills for teamwork in multidisciplinary, multifunctional, or multicultural contexts" (Demirkan & Spohrer, 2015).
Technical skill	[Technical skills are]"skill[s]…required for the accomplishment of a specific task" (*BusinessDictionary.com*, n.d.).

Organization of the study

This thesis is composed of five chapters as follows. Chapter I details the need for defined cross-functional skills for fashion professionals resulting from the advancement of technologies, the complexity of globalization, and digitalization occurring in the fashion industry. The background of the study includes definitions and identification of

gaps in current research findings for a definition of 'cross-functional skills' and a skills framework specific for the fashion professional. Chapter II is a review of existing literature on the use of the term 'cross-functional' and 'cross-functional skills'. The chapter includes existing skill frameworks used to illustrate workers' skill sets and introduces a proposed definition and framework to support this study. Chapter III outlines the empirical alignment of the proposed research framework. The research methodologies are explained including sampling, data collection, and the data analysis method and process. Chapter IV presents the results and analysis of the research. The thesis concludes in Chapter V with a discussion of contributions and implications of the study's results as well as the limitations of the research and potential research opportunities for the future.

CHAPTER II: LITERATURE REVIEW

Chapter II contains the following sections: (a) key term definitions, (b) uses of the term 'cross-functional', (c) proposed formal definition of the term 'cross-functional skills' for the fashion professional, (d) review of skill set frameworks, (e) explanation of the history and use of the T-shaped framework, and (f) the identification of the existing gap within the fashion industry and academia related to desired skills necessary for entry-level fashion professionals.

Defining cross-functional skills

Key Term Definitions

'Cross-function (CF) skills' is a commonly used term, but findings for a definition of cross-functional skills are limited. To start to define this term, the researcher conducted an initial literature review. In an initial review of the term description documentation, eight academic and business dictionaries and eleven scholarly journal articles were used as sources for locating the definition of cross-functional skills. Identification of keywords associated with 'cross-function' and 'skill' collected from the eight academic and business dictionaries are listed in Table 1 and indicate the lack of definitions for the term 'cross-function'. The dictionaries reviewed for key term definitions were: *BusinessDictionary.com; Cambridge Dictionary; Collins Dictionary; Dictionary.com; Lexico.com; Macmillan Dictionary, Merriam-Webster Dictionary; Psychology Dictionary*.

The term 'cross-function' was the first investigated, and no definitions were found. *Lexico.com* provided a definition of 'cross-functional' instead, and *Cambridge Dictionary* (n.d.) defined 'cross-functional' as "involving people or departments who do different

types of work for the same company". For example, cross-functional would describe the marketing, sourcing, finance, product development, and operations departments of a company working together on a project.

Further examination of the term 'cross-function' identified the terms 'function' and 'functional' in seven dictionaries. *MacMillian Dictionary* (n.d.) defines 'function' as "someone's job or particular responsibility" and 'functional' as "designed to be good at doing a particular job". 'Technical skills' is a term used to describe skills specific to one's job and are defined as "skill[s]…required for the accomplishment of a specific task". (*BusinessDictionary*.com, n.d.) These definitions align with an employee's core job responsibility. 'Multifunctional' was another term identified referring to function, and *Collins Dictionary* (n.d.) defines it as "having or able to perform many functions". Multifunctional would describe a product manager role that included sourcing, finance planning, and product development job responsibilities.

Cross-functional is often commonly used to describe a collaborative team, and the researcher identified the need to define 'collaborate' and 'collaboration'. Six of the eight sources provided definitions of 'collaborate' with *MacMillian Dictionary* (n.d.) defining the term "to work with someone in order to produce something". 'Collaboration' was found in seven of the eight sources and is defined as "the process of working with someone to produce something" by *Lexico.com* (n.d.). Both terms can describe buyers, digital merchandisers, digital marketers, and programmers working together to launch new products on an eCommerce website in the fashion industry setting. A similar term is 'cooperation', which the *MacMillian Dictionary* (n.d) defines as "a situation in which people or organizations work together to achieve a result that will

benefit all of them". 'Teamwork' is also used in connection to a group of people and is defined by *Cambridge Dictionary* (n.d) as "the ability of a group of people to work well together". These key term findings show consistency with regards to words associated or related to 'cross-function'. However, the definition of the term 'cross-functional' related to an individual remains a gap in the literature.

With the examination of terms related to and associated with the term 'cross-function', the term 'skill' was investigated and defined in all eight dictionary sources. All sources define 'skill' similarly as the *MacMillian Dictionary* (n.d.): "The ability to do something well, usually as a result of experience and training". Within the fashion industry, pattern making, and draping would be examples of technical skills for designers. An additional skill term commonly used is 'soft skills'. *Cambridge Business English Dictionary* (n.d.) defines 'soft skills' as "people's abilities to communicate with each other and work well together". While often used interchangeably with the term 'soft skills', 'interpersonal skills' is directly related to relationship-building and is specifically defined as the ability to create relationships between people (*MacMillian Dictionary*, n.d). The key term analysis results support this study's aim at proposing a formal definition of 'cross-functional (CF)' skill.

Table 1

Definition Review of Associated Keywords

Term	Number of Resources with Definitions*	Common Definition
Cross-function	0	No definitions exist.
Cross-functional	2	Involving people or departments who do different types of work for the same company.
Multifunctional	5	Having or able to perform many functions.
Collaborate	6	To work with someone in order to produce something.
Collaboration	7	The process of working with someone to produce something.
Cooperation	7	A situation in which people or organizations work together to achieve a result that will benefit all of them.
Function	7	Someone's job or a particular responsibility.
Functional	7	Designed to be good at doing a particular job.
Skill	8	The ability to do something well, usually as a result of experience and training.
Teamwork	7	The ability of a group of people to work well together.

Note. Eight total references: *BusinessDictionary.com; Cambridge Dictionary; Collins Dictionary; Dictionary.com; Lexico.com; Macmillan Dictionary, Merriam-Webster Dictionary; Psychology Dictionary*. Retrieved November 2019.

Cross-functional Term Uses

To continue the study of the meaning of cross-functional (CF) skills, a literature review was conducted on the term 'cross-functional skill' and those terms most commonly associated or related to the term. Google Scholar and the University of Missouri Library

provided eleven scholarly articles with terms related to CF skill. Existing research uses the term CF most often as a qualifier of other terms, such as 'collaboration', (Robbins & Judge, 2013), 'cooperation' (Gemser & Leenders, 2010), 'coordination' (Eng, 2006), and 'integration', (Pellathy et al., 2019), as shown in Table 2.

Cross-functional Collaboration

As the most commonly used term, 'cross-functional collaboration' was defined as "a team consisting of members who are from about the same hierarchical level but from different work areas who come together to accomplish a specific task" (Lin et al., 2015, p.129). Lin et al. (2015) used a collaboration between manufacturing, research and development as an example of CF collaboration. Tsai and Hsub (2014) also define CF collaboration as "…aligning the various goals of functional units by recognizing their interdependence and the need to cooperate for the benefit of the organization" (p. 293). Wells (2008) stated that in the product innovation process, CF collaboration depends on the degree of involvement and cooperation of functional areas within the innovation process. Priyono (2016) studied cross-functional collaboration as an essential team requirement for sustainability within remanufacturing companies. In all instances, CF is related to team characteristics, but not at the individual level.

Table 2.

Cross-functional Definition Review

Term	Industry	Definition	Source
Cross-functional collaboration	Technology	"Cross-functional collaboration refers to a team consisting of members who are from about the same hierarchical level but from different work areas who come together to accomplish a specific task."	Robbins & Judge. (2013, p.45)
Cross-functional integration	Supply Chain	"...cross-functional integration roots the concept in the earliest discussions of SCM as a unique approach to value creation predicated on working across the internal functional siloes that form around companies' purchasing, operations, and logistics activities".	Pellathy, Mollenkopf, Stank, Autry. (2019, p.82)
Cross-functional cooperation	Electronic and Pharmaceuticals	"Cross-functional cooperation - in which people from different disciplines and functions work together towards some goal of common interest."	Gemser & Leenders. (2010, pg. 26)
Cross-functional coordination	Supply Chain	"Cross-functional coordination in SCM can be defined as purposive coordination of supply chain activities, and information flows across business functions and between firms."	Eng. (2006 p.763)
Cross-functional competencies	Education	"cross-functional competence…the ability to move across functional (i.e., typical role) boundaries and apply one's skills in environments other than those indigenous to one's root discipline."	Freeman, Field, Dyrenfurth. (2001, p.68)
Cross-functional skills	Education	"Cross-functional skills can be defined as follows: specific skills exercised in contexts that differ from those in which they have been built or for which they were produced."	Safta (2015, p.350)

Note. This table outlines commonly used terms with 'cross-functional' as an adjective used to describe team attributes across multiple disciplines.

Cross-functional Team

'Cross-functional team' is another commonly used term characterizing a group of workers with different role functions that come together to accomplish a specific project or task (Robbins & Judge, 2013). McAndrews (2015) defines the CF team within the apparel supply chain as a group made up of those from different functional areas "who are brought together for the common purpose of creating and refining new products." In a more recent finding, the CF team was described as "consisting of representatives of various functional units" within an organization that works together on projects (Zhang & Guo, 2019). These findings suggest that team settings remain the prominent context for CF for its definition.

Cross-functional Integration

Within the context of supply chain management, 'cross-functional integration' refers to an approach that requires working across companies' internal siloes (Pellathy et al., 2019, p.82). This definition supports earlier supply chain research that describes CF integration as "structuring organizational practices, procedures and behaviours into collaborative, synchronized and manageable processes in order to fulfill customer requirements, rather than operating as 'functional silos' within the organization" (Piercya & Elllinge, 2015, p.50). CF integration is also described as a combination of interaction, or "formal coordination mechanisms", and collaboration, or the "harmonious, collaborative nature of interdepartmental relationship" (De Clercq, Thongpapanl, & Dimov, 2011). In this setting, CF refers to processes of a group function, and not necessarily to individual's skills.

Cross-functional Cooperation

The term 'cross-functional cooperation' is defined as the ease at which information and knowledge are shared between functions or roles (Gemser & Leenders, 2010, p.32). Within the context of CF, cooperation refers to information sharing across functional roles and teams but is not specific to an individual's skills. CF coordination is also used in reference to information sharing across a team (Eng, 2006, p.763). Korhonen-Sande & Sande (2014) studied CF cooperation within the context of collaboration between sales and marketing in their study of the benefits of cooperative relationships on an organization's decision-making and sales performance. Another study by Kim and Kang (2008) found that CF cooperation was related to improved performance and outcomes within new product development design teams. Overall, CF cooperation is a behavior related to a group context and not an individual trait.

Cross-functional Competency and Skill

When referring to individual work attributes, the terms 'CF competencies' and 'CF skills' are often used synonymously. However, existing research has defined competencies and skills as two different but related concepts. The literature defines 'skill' as an individual's ability to do tasks and problem solve. Skills are multiple sets of abilities, such as interpersonal, technical, and cognitive skills. Conversely, 'competency' is defined as a broader concept related to the ability to apply learning outcomes in a specific context, not limited by interpersonal, functional, technical, or cognitive abilities (The European Commission's Cedefop, 2020). Competency is a broader concept than skills and measuring and assessing competency is much more complex than that of skills. In this study, CF skills are in focus because the researcher wants to discover individual

abilities needed to contribute to the fashion industry workforce, rather than the broader concept that relates to applying learning outcomes to situations. With this clarification, the next section attempts to define CF skills for this study.

Proposed Definition of Cross-functional Skill

Understanding the definitions and the contexts in which the term of cross-functional has been used as described by various dictionaries, the researcher then reviewed the professional literature to understand how this term is being defined, discussed, and explained in the professional realm.

One of the first definitions of 'cross-functional skill' was outlined in a professional development study at the International Conference for Education and Psychology Challenges in 2015. In the context of skill integration, this reference called out the controversy caused by the commonality status of the term CF skills due to the use by industries with no clear definition of skills as CF (Safta, 2015, p. 350). Satfa went on to define CF skills as "specific skills exercised in contexts that differ from those in which they have been built or for which they were produced" (Safta, 2015, p. 348). However, this definition is not supported by evidentiary support or empirical research results and is not specific to the fashion industry.

In another study on the nursing industry, Burrus et al. (2013) referred to CF skills within the analysis of the Occupational Information Network (O*NET) with no empirical basis to the skill definition (pg 9, para 4). The Commission on Behavioral and Social Sciences and Reduction of the National Research Council lists teamwork, decision-making, communication, and leadership among skills referred to as CF skills. However, a definition of CF skills is lacking (Freeman et al., 2001). Levenson (2012) argues that

organizations (in general) would benefit from developing individual worker cross-functional skills, but the research lacks a specific definition of CF skills. As is evidenced by the initial findings, CF skills is a term that multiple industries commonly use, but a clear and validated CF skill definition remains a gap. With the complexity of globalization, digitalization, technology innovation, and the aging workforce, the fashion industry would benefit from a formal definition of CF skills, contributing to further studies in the skills needed in the ever-changing fashion workplace.

To fill such a gap, this study incorporates both group and individual attributes related to CF skills to propose the definition of CF skills for use in the fashion industry context. The US Fashion Industry Association defines the fashion industry as inclusive of those functions across the supply chain, "ranging from design and development to sourcing and logistics, to trade policy and compliance, to retail and marketing" (Usfashionindustry.com, 2020). The following definition is proposed to establish the meaning of the term 'cross-functional skills' specifically for the fashion industry:

> Cross-functional skills are defined in this study as the abilities to do something well outside of one's specific knowledge domain in order to effectively collaborate with individuals and/or teams, to achieve team(s)' goals in the fashion industry (Leiby, Ha-Brookshire, 2020).

In this definition, the 'specific knowledge domain' referred to by Safta (2015) is an individual's ability to perform technical skills in the fashion industry, such as designing or buying. 'Outside of one's specific knowledge domain' addresses those skills

outside the core job requirements. These skills are comprised of transferable and soft skills as individual attributes needed to effectively collaborate, cooperate and integrate across and within teams of multiple functions, such as sourcing, operations, and marketing, to meet business objectives. Muhamad (2012) defines 'transferable skills' as "the skills and abilities considered to be used in more than one context". 'Transferable skills' are "those skills that are central to occupational competence in all sectors and all levels, and include project management, leadership, communication, working in teams, and problem-solving" (Chadha, 2006). Research findings support the importance of soft skills to individual skills and team performance.

In a study investigating college students' awareness of the importance and impact of soft skills on their professional career, 'soft skills' were defined as "intra and interpersonal (socio-emotional) skills essential for personal development, social participation, and workplace success" (Kechagias, 2011, as cited in Sharma, 2018). Sharma (2018) pointed out that soft skills, such as communication and team building, are being required by managers to increase teams' effectiveness to manage changes and stresses resulting from technological advances, downsizing, and rapid industry and corporate growth. Together, this definition emphasizes both domain knowledge and the ability to work with individuals and/or teams in other domain functions. Therefore, in this study, T-shaped CF skills are considered both soft and transferable skills.

Defining Fashion Professional

In previous research, fashion professionals have been defined as “trained and experienced individuals in apparel and accessories design and manufacturing companies who employ apparel or accessories product designers in the United States…" (Eunyoung,

2010, pg 10). Further investigation is needed to validate the appropriateness of this definition within the context of this study.

To formalize the fashion professional's definition, the terms 'profession' and 'professional' were investigated. Being consistent with resources, *Dictonary.com* (2020) defined 'profession' as "a vocation requiring knowledge of some department of learning or science". The same source defines the noun 'professional' "as a person who belongs to one of the professions, especially one of the learned professions" (*Dictionary.com,* 2020). *Lexico.com* (2020) defines 'profession' as "a paid occupation, especially one that involves prolonged training and a formal qualification", and 'professional' as "relating to or belonging to a profession".

Established definitions of the fashion industry validate the definition of the fashion professional. According to *Britannica* (2020), four levels make up the fashion industry. These levels are raw material production to include fibers, textiles, leather and fur; fashion goods production by designers, manufacturers, contractors, and others; retail sales; and marketing. Fashion goods are described as apparel, accessories, home furnishings, or other textile-based products (Steele, n.d). Additionally, the US Fashion Industry Association defines the fashion industry as inclusive of those functions across the supply chain, "ranging from design and development to sourcing and logistics, to trade policy and compliance, to retail and marketing" (Usfashionindustry.com, 2020). Encompassing the entire supply chain advances Eunyoung's definition to be more inclusive of all industry roles.

A gap in research exists in terms of a current and formal definition of the fashion professional. The contributions of the definitions of fashion, profession, and professional, helps formalize the definition of a fashion professional as:

> a trained person in a compensated role in the global fashion supply chain who performs functions in design, development, sourcing, logistics, trade policies, trade compliance, retail, marketing, and any related areas, which involves prolonged training and a formal qualification.

The T-shaped person as a theoretical framework

Then, what skills are necessary for a fashion professional to be effectively cross-functional? To answer this question, the T-shaped person is discussed as the study's theoretical framework. In 2020, Brown used the term 'skills framework' to discuss the model for common skills terms within individual disciplines. A skills framework "includes both 'hard' or 'technical' skills, which are discipline specific…and 'soft' or 'transferable' skills such as communication, leadership, and teamwork" (Brown, 2020). With industry employers emphasizing the need for transferable skills, along with college graduates' perceived lack of transferable skills upon entering the workforce, "a skills framework should include transferable skills" (Brown, 2020).

In their 2015 study, Demirkan and Spohrer noted the increasing need for workers to lead and participate in cross-functional teams and effectively communicate with colleagues with varying disciplines and cultural values. Companies are looking for new employees that can "both 'hit the ground running' and continually build relevant new skills" (Demirkan & Spohrer, 2015). Workforce complexities have led to industries and

researchers using shape terms to characterize workers' knowledge (Table 3). Shapes such as, "I-shaped, Pi-shaped, H-shaped, M-shaped, dash-shaped, X-shaped, C-shaped, Comb-shaped, and T-shaped…" are metaphors mentioned in multiple findings. (Demirkan & Spohrer, 2015; van Veenendaal, 2020).

In the context of worker skill sets, a worker with deep knowledge and expertise in their singular discipline would be considered I-shaped. Expertise in two disciplines would be represented in a Pi-shape or H-shape. Additional studies used the terms of comb-shaped (multiple vertical lines) and hyphen (or dash)-shaped (no vertical line) to illustrate workers' skills and expertise. Within the software industry, Rostami and Neshati (2018) defined each of these shape profiles as indicators of the depth of expertise and the breadth of general knowledge. "A professional with a breadth of knowledge across many disciplines or areas but no deep expertise in one area would be represented as a dash-shaped worker profile" The C-shaped worker has knowledge, skills, and experience across multiple areas. More recent frameworks include the M-shape that indicates a worker's three areas of expertise connected by general knowledge. The X-shaped worker has a combination of broad and deep competence intersected with leadership and strategic thinking (van Veenedaal, 2020). Finally, the T-shaped framework is specific to an individual's singular expertise as the base of the framework and a broad knowledge across multiple areas as the breadth of the framework (Demirkan & Spohrer, 2015).

Table 3.

Skill Shape Frameworks

Skill Shape	Definitions
Dash-shaped	No singular expertise; broad knowledge; considered to be generalists. (Demirkan & Spohrer, 2015, pg.13, para. 3).
I shaped	Single area expertise and knowledge depth (Demirkan & Spohrer, 2015).
C-shaped	Experience and expertise across several areas (Rostami & Neshati, 2019, pg. 232, para. 4).
H-shaped	Deep expertise in two areas with a common link of knowledge (Bierema, 2019, pg. 70, para. 1).
M-shaped	Three areas of expertise connected with a line of general knowledge (van Veenendaal, 2020, pg. 5, para 5).
Π (Pi)-shaped	Two areas of expertise connected with a vertical line of general knowledge (van Veenendaal, 2020, pg 5, para.5).
T-shaped	Expertise in one area with broad knowledge across multiple areas (Demirkan & Spohrer, 2015).
X-shaped	Combination of broad and deep competence intersected with leadership and strategic thinking (van Veenendaal, 2020, pg. 6, para. 3).
Y-shaped	Receives and filters information and interprets the information within the application to their primary skill context (van Veenendaal, 2020, pg. 7, para. 1).
E-shaped	Expert knowledge in several areas and experience and execution competencies across several areas (Controllers Council.org., 2020)
Comb-shaped	Multiple areas of expert knowledge with breadth of general knowledge (Controllers Council.org., 2020).

Note: Shape skill models that have been used to describe different worker skill sets and attributes across multiple industries.

The T-shaped professional is a hybrid of the dash and I-shape profiles. Research findings validate the T-shape framework as the model that reflects the need for "deep disciplinary knowledge" and "importance of knowledge and interaction within and across

disciplinary domains" (Gardner & Estry, 2017). According to Demirkan and Spohrer (2015), "T-shaped people have a breadth of knowledge and experience that enables faster adaptation and role changes, in addition to better communication skills for teamwork in multi-disciplinary, multifunctional, or multicultural contexts".

First used internally by the global consulting firm, McKinsey and Company in the 1980s, the T-shaped person referred to the ideal employee's competencies. In 1991, David Guest, a British editorial writer, used the term to illustrate what he referred to as "The Renaissance Man"; the employee with the right skills for the future, especially those in technology, and computing disciplines (*The Independent,* 1991). The design company, IDEO, further contributed to the acceptance of the T-shaped person framework. In 2005, Kelly suggested that "…T-shaped people are the ones having limited knowledge about a lot while having a lot of knowledge for a little". IDEO CEO, Tim Brown, is credited with popularizing the T-shaped person concept in 2010 as an assessment tool to build interdisciplinary work teams for creative processes (Gardner & Estry, 2017). In more recent findings, Gardner and Estry (2017) stated that the T-shaped professional:

> integrates depth, defined in terms of disciplinary knowledge and the ability to understand how individuals with that knowledge function and interact to accomplish a desired outcome within or across a system(s), and breadth, defined as the professional abilities that allow someone with profound disciplinary knowledge to interact meaningfully with others who possess difference disciplinary knowledge in order to affect an outcome that might not otherwise be possible (pg. 1, para. 1).

This definition of the T-shaped professional establishes the depth of "one's specific domain" and breadth as the ability to perform well "outside that domain" to achieve desired outcomes as an appropriate framework for identifying the CF skills needed by fashion professionals in the fashion industry (Leiby & Ha-Brookshire, 2020). The study's specific definition of 'fashion professional' has been previously established as a trained person in a compensated role in the global fashion supply chain.

Note that one study uses 'T-shape' to refer to behavior instead of skill set (Hansen & von Oetinger, 2001). With the need to establish a skills framework for fashion industry professionals, this study will follow the precedent of 'T-shape' as an individual skill set framework and not a behavioral model.

Multiple disciplines have referred to the 'T-shaped person' as the desired combination of worker skills needed to compete and succeed as individual professionals and essential to companies' and industries' future growth. Industries such as human resource consulting, R&D, law, health sciences, engineering, and technology have adopted this conceptual framework as a desirable makeup of industry employees. Commonly credited for popularizing the 'T-shape professional' term, Tim Brown and IDEO's discussion of the framework was concerning their corporate initiative of delivering human-centered design (Gardner & Estry, 2017). In the field of New Product Development (NPD), specifically within a design focus, The International Design Business Management Program (IDBM) in Finland is a strategic design program developed in 1995 to educate future design professionals. The program's development was in reaction to the need for innovative design teams to include T-shaped workers with

"not only disciplinary expertise but also strong multi-disciplinary knowledge and experience" (Karjalainen & Salimäki, 2008).

Investigation of findings in other discipline-specific applications of the T-shaped person framework included Iansiti's definition of the T-shaped framework for the Research and Development sector, stating that "T-shape people (…) know how their discipline interacts with others" (2003). Within the library sciences discipline, Bell and Shank (2007) defined the framework for the academic librarian as "blended librarians possess[ing] a core librarian skill set along with informational and educational technology…with the ability to understand user needs or situations by using other non-functional skills" (pg. 10, para 1).

The legal industry is experiencing an increasing need to meet new client demands for better and less expensive services. In *The 21st Century T-Shaped Lawyer*, Smathers states that "Twentieth-century lawyers were 'I-shaped'…but the 21st century lawyers must be 'T-shaped' "(2014). Having a broader knowledge of project management, technology, business, analytics, and data security, along with expertise in law, enables lawyers to adapt better to increasingly changing client demands (Smathers, 2014).

In the health sciences field, the US National Institute of Health Bioengineering Consortium released a report in 2000 with scientific priorities that included "A new generation of students (…) trained, combining a rigorous disciplinary depth with the ability to reach out to others " (BECON, 2000). In 2015, researchers Kazmia and Naaranojab shared the importance of having T-shaped workers (stated as "T-style thinkers") within the healthcare field. Their findings stated that "T-thinkers help

collaborative innovation process among various disciplines due to their ability of having cross-disciplinary knowledge base" (Kazmia & Naaranojab, 2015).

The sciences and technology business and education sectors have been prominent proponents of the 'T-shaped professional'. In recent studies, researchers have acknowledged the increasing need for specialty engineers' abilities, such as aeronautical, to be able to interact and collaborate across engineering specialties to keep pace with the increasing complexity of technological disciplines (Delicado, Salado, Mompó, 2017). According to research findings within the engineering discipline, those companies based in technology are linking the need to gain a competitive advantage with skill sets of employees that include soft skills and technical skills. The T-shaped person is becoming more desired as the complexity of business solutions increase. "Today, T-shaped skills are a razor that can cut through all complexity in the more and more complex world" (Babatope, Ajewole, & Anyanwu, 2020). Besides IDEO, companies such as IBM, Cisco, BP, GlaxoSmithKline, General Electric, and Siemens have embraced the T-shaped model to adapt to increasing business complexities and technology innovations (Gardner & Estry, 2017; Hansen & von Oetinger, 2001; Demirkan & Spohrer, 2015).

Specific to the information technology (IT) discipline, Heinemann (2009) refers to a global IT professional "T-shaped Enterprise Engineer [as] an expert…with broad understanding of, e.g., business processes and/or management concepts…as well as a deep expert knowledge of IT sub-domains…". Academics in engineering and technology disciplines have acknowledged the increasing need for engineers to be specialists with a broad knowledge of other roles and businesses. To address the constantly growing complexity within IT disciplines and the need for a T-shaped skill curriculum, Science

Service Management and Engineering (SSME) academic programs were introduced into higher education institutions. Introduced by IBM in 2004, SSME, (Science, Service, Management and Engineering) is a "… multi-disciplinary research and academic effort that integrates aspects of established fields such as computer science, operations research, engineering, management sciences, business strategy, social and cognitive sciences, and legal sciences" (Zhao et al. 2009). The SSME academic discipline was introduced to provide higher education opportunities to meet "skills required by the industrial workforce in the 21st century" (Zhao et al. 2009).

Academia is increasingly focused on providing educational opportunities to develop the skills within the T-shaped skill framework. In the case of Finland's NPD design program, IDBM, the University of Applied Science, School of Technology in the Netherlands, developed an interactive engineering environment, "The Innovation Lab", in response to the need of an engineering workforce that includes more "T-Shaped engineers" (Oskam, 2014). Engineering graduate and professional programs across the United States are incorporating the need for T-shaped professionals within their curriculum. In 2015, Harvard University established the IT Academy to educate T-shaped professionals for advancement in digital technologies (Crider, 2015). Universities such as Stanford, MIT, Columbia, Rutgers, and the University of Alabama at Birmingham have adapted versions of the foundational SSME concept to provide educational development opportunities for T-shaped professionals of engineering disciplines. The Saunders College of Business at the Rochester Institute of Technology focuses on providing an education for "T-shaped leaders…who have a deep disciplinary knowledge

of the professional and personal skills that transcend disciplines" (Van Nostrand, 2019, "Becoming a 'T-Shaped' Manager" section).

Other universities with a similar focus on building skills for the T-shaped person include (but are not inclusive): Harvard University – IT Academy, Duke University- Master of Engineering Management; West Virginia University - Reed College of Media, Integrated Marketing Communication graduate program; York University, Toronto Canada – Continuing Studies Program; Northern Kentucky University – Undergraduate Integrative studies; the University of North Carolina, Charlotte – College of Computing and Informatics; University of North Carolina, Greensboro – Integrated Professional Studies; Mercyhurst University – Walker College of Business; and The George Washington University. These universities' academic programs and curriculum use the T-shaped person concept to focus on providing educational opportunities for students and professionals to develop with technical and CF skills. Specifically, skills within the T-shaped person framework most frequently mentioned were communication, collaboration, problem-solving, critical thinking, leadership, and adaptability, all of which are typically outside of specific domain skills.

Research Gap and Research Questions

Increased awareness of the responsibility of academic programs and curricula to better prepare fashion students for employment in the fashion industry has been acknowledged and remains a focus for ITAA (International Textile and Apparel Association) meta-goals (Frazier & Cheeks, 2015). Although 'cross-functional' is commonly used as the desired skill attributes, little evidence has established cross-functional skills as defined or identified in the fashion industry. This lack of definition or

identification makes it difficult to create effective curricula and educational programs with appropriate learning outcomes. Meanwhile, the need for better student preparedness for the competitive job market and successful workplace contribution is a priority (Chi, Lui, Salusso, McCracken, 2018; Modenlek, 2019).

At the same time, other industries and academic programs promote a T-shaped person model to emphasize technical and cross-functional skills that are critical for evolving industries. While job-specific technical skills are necessary for the framework, industries have noted that the CF skills in the T-shaped person model are critical for companies to continually adapt to changing business needs and technologies. However, our understanding of CF skills or skills necessary to become a T-person in the fashion industry is unknown. Therefore, this research aimed to define and identify specific individual skill attributes that would help enhance fashion professionals' cross-functional skills and create T-shaped fashion professionals. For this goal, the study was designed as the following two-step approach:

Step 1: A content analysis was conducted of current job announcements in the US fashion industry to obtain commonly sought-after skill sets by fashion employers. Specifically, the data was analyzed to seek:

(a) What skills within one's specific disciplinary domain, or technical skills, are requested when recruiting fashion professionals?

(b) What skills outside of one's specific disciplinary domain, or cross-functional skills, are requested when recruiting fashion professionals?

With the content analysis results, the study explored deeper into what each skill means to today's fashion professionals. Therefore, the Step 2 approach aimed:

Step 2: To explore what skills make up the T-shaped person framework for fashion professionals to effectively collaborate with individuals and/or teams, to achieve team(s)' goals by interviewing current fashion professional recruiters and managers. Specifically, the data collected in Step 2 was analyzed to seek:

(a) what skills within one's specific disciplinary domain, or technical skills, are necessary to perform and adapt in the fashion industry?

(b) What skills outside of one's specific disciplinary domain, or cross-functional skills, are necessary to perform and adapt in the fashion industry?

The study results helped to uncover the skill sets today's fashion industry requires for both inside and outside of the disciplinary domain of fashion professionals. The synthesis of Step 1 and Step 2 findings resulted in the proposed T-shaped professional framework for the fashion industry.

CHAPTER III: METHODS

This section includes the following sections (a) study approaches for Steps 1 and 2, (b) data collection and analysis of Step 1 and 2, (c) results of Step 1 and 2, and (d) reflectivity.

Study Approach: Step 1 – Content Analysis

This study used a grounded theory (GT) approach to develop a theoretical framework for the skill set needed for fashion professionals to meet current and future industry requirements. Grounded theory is a methodology that seeks to uncover or construct theory from data and is especially useful when the construct is new and relatively under-examined (Tie, Birks & Francis, 2019). Given that the research objectives in this study were under-explored in the fashion literature, the parallel collection and generation of data, and the constant comparison analysis inherent to GT allow for a research design appropriately suited to this study. For the purpose of the study, a two-step approach was executed. The first step was the content analysis of fashion industry job postings to seek a) what skills within one's specific disciplinary domain, or T skills, are requested when recruiting fashion professionals, and (b) what skills outside of one's specific disciplinary domain, or CF skills, are requested when recruiting fashion professionals.

Method – Step 1

To identify skills that will make up the T-shaped person framework, a content analysis of fashion industry job postings was conducted from fall 2019 and spring 2020. To identify specific skill terms requested by job recruiters, the analysis was used to record and analyze the frequency of requested skill terms across all job postings.

Data Collection – Step 1

After assessing employment posting sites, the researcher identified three sources as having the most inclusive lists of fashion positions across the US fashion industry and extensive lists of job qualifications and requirements. The data was collected from Indeed.com, BoF.com [Business of Fashion], and StyleCareers.com job postings made between December 19, 2019, and January 27, 2020, until a point of theoretical saturation was met (Savin-Baden & Major, 2013). A total of 450 US fashion postings across 13 job categories were collected and converted to Word documents for analysis. The job categories were merchandising, buying, visual merchandising, fashion styling, fashion design, technical design, product development, sourcing, planning and allocation, operations, retail management, eCommerce, and consumer strategy. Skill terms present in each job posting were recorded in Excel and interpreted for context and term consistency across all 13 job categories. Skills aligning with a specific knowledge domain were categorized as technical (T) skills and abilities required outside of a role's primary expertise were categorized as cross-functional (CF) skills, following the established CF definition and T-shaped person framework proposed for the fashion industry professional. Overall, during Step 1 of this study, 450 postings were analyzed, of which 350 were collect from Indeed.com, 74 collected from Bof.com, and 26 were collected from StyleCareers.com.

Data analysis – Step 1

A key characteristic of GT is coding data as it is collected and continually interacting with the data to discover new perspectives and potential research directions. The researcher's interpretations of the data influence the coding and determine the codes,

unlike other research coding techniques with standardized codes (Charmaz, 2003). Following the GT coding method allows for discovering emergent skill themes and terms that will help the study achieve its objectives to identify current and future skill needs in the fashion industry. Using the GT coding method to analyze the data, three levels of coding were conducted in Step 1. The first step in the process was to transfer all job postings into separate Microsoft Word documents by job position. In the initial coding, skills found in the postings as required or preferred were identified across each job and recorded in an Excel worksheet. The Excel file was built and organized by job function on individual tabs within the file. Each job posting and skill term mentioned were recorded and coded to designated as required or preferred.

Across all job functions, 151 terms were recorded as required or preferred by job recruiters. These terms were analyzed for redundancy and further categorized into 76 skill categories in the intermediate coding step. The categorization was based on the previously stated definitions of T skills as those skills specific to one's disciplinary domain, and CF skills, as those outside of one's specific disciplinary domain.
This classification step resulted in 10 skills aligning with T skills and 66 aligning with CF skills through advanced coding. The quantity of each coded term for the 76 skill classifications were added up for each job category. The total classification quantity by job category and its percentage to the overall quantity for each skill classification was calculated. The comparative method used in analyzing the 450 postings, 151 terms, and 13 job functions provided the data to propose the study's framework and support Step 2 of the research method.

Results – Step 1

Figures 1 and 2 illustrate the results of the content analysis. The figures show the ranking of skills for T skills and CF skills across all 450 postings. The details by classifications are shown in Appendix E. Based on the classification and ranking of the analyzed skill terms and categories from the content analysis, the T-shaped framework was developed, as shown in Figure 3 (Leiby & Zhao, 2020).

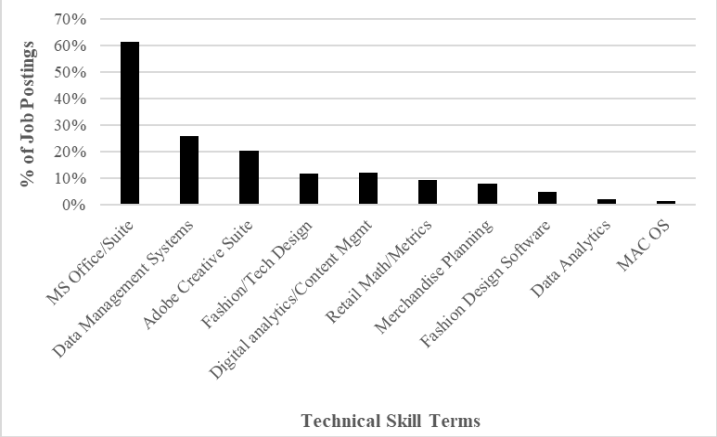
Technical skills. Figure 3 shows the vertical line ('I') of the T-shaped person framework was developed from the analysis of all job postings and those skills that were categorized as specific to the job. Among these T skills ('I'), only four skills were present in 20% or more job postings across the study data. The T skills analysis showed that 73% of all postings required or preferred an undergraduate degree (Label A), with the balance of postings having no indication of educational requirements. Label B in the vertical line indicates that the most commonly required T skill across all postings was Microsoft Office (61%), with the primary focus on aptitude for Excel at 60% of all job postings requiring proficiency. Proficiencies in data management systems were required or preferred by 32% of the postings (C). These included PLM, SAP, ERP, and other job function databases. Finally, the vertical line shows the T skills required for expertise in the specific job category (Label D and E), which, in this case, is a designer (Figure 3).

Cross-functional skills. The fashion industry's CF skills established the horizontal line of the proposed T-shaped framework for the fashion industry. Thirty-nine CF skills were recorded, and those mentioned in more than 20% of postings established the horizontal bar of the fashion T-shaped person. As shown in the top center box (labeled as 4) in Figure 3, the most commonly required CF skill across all postings was

communication (73%). This skill category included verbal (70%), written (66%), presentation (20%), and listening skills (4%). While 28% of the job posting specifically called for the ability to thrive in a faced-paced environment (Label 7), this calls for adaptability in a constantly changing work environment also aligned with the need for organizational skills at 42% (Label 3) and a high level of attention to detail at 32% (Label 1). Business acumen (10%) and retail math (9%) were limited in mentions across all postings, however, over one-third of the jobs required analytical skills (Label 2), which would include both retail math and business acumen proficiencies. The left side of the horizontal line (Labels 1, 2, 3) aligns with individual CF skills needed across all fashion job positions. The =line's right side (Labels 5, 6, 7) suggests those CF skills needed to participate across and within teams and organizations.

Figure 1

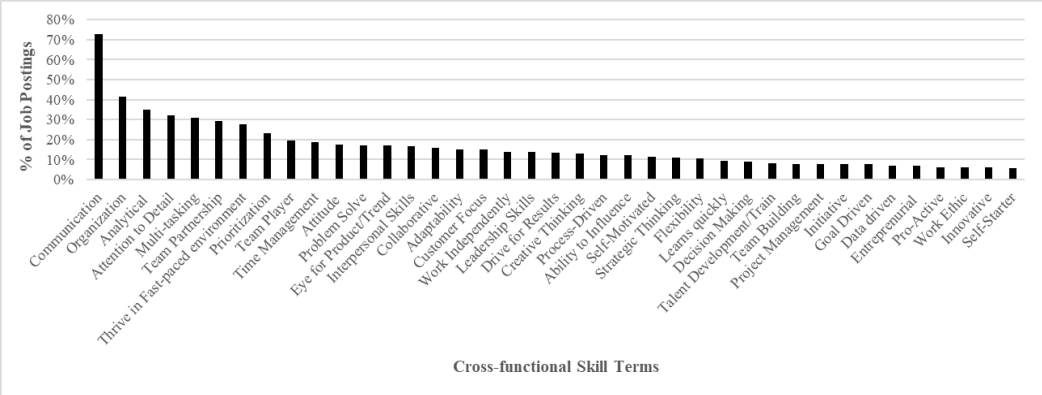
Recruited Technical Skills for the Fashion Industry



Note: This figure illustrates the number of postings and percentage of technical skills for terms collected from study data Step 1.

Figure 2.

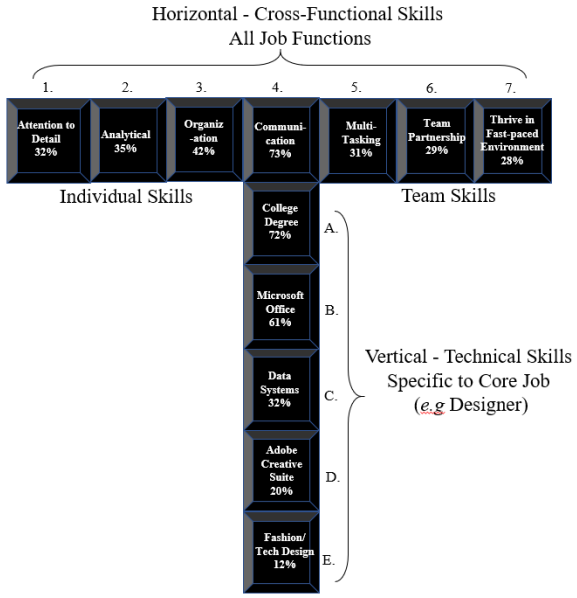
Recruited Cross-functional Skills for the Fashion Industry



Note: This figure illustrates the number of postings and percentage cross-functional skills for terms collected from study data Step 1.

Figure 3.

Fashion Industry T-shaped Person Framework for Technical and Cross-functional Skills



Note: This figure details the CF skills most often requested by recruiters in the fashion industry and T skills most often requested for specific job domains from the study data from Step 1.

Discussion of the Results – Step 1

Based on the T-shaped person framework's current findings and the need for fashion industry professionals with cross-functional and technical skills, the study proposed developing a T-shaped skill framework for the fashion professional. While other shaped skill frameworks exist across multiple industries, the T-shaped framework proposed in Figure 3 in addresses the fashion industry's specific needs (Leiby & Zhao, 2020). .

Previous findings in other industries indicated that communication, collaboration, and adaptability were the most frequently desired skills outside a worker's technical job. In the analysis of frequently used skill terms in job recruitment, the importance of communication (73%), team partnership, which includes collaboration terms in the analysis coding, (29%), and adaptability (28%) were similarly highly desired skills. However, problem-solving (17%), leadership (14%), and critical thinking (4%), were not highly ranked required or preferred soft skills (Appendix E). The literature also indicated the importance of the ability to collaborate and quickly adapt to the new technology in the fashion industry that is highly globalized and influenced with fast-changing consumer behavior (Chi, Lui, Salusso, McCracken, 2018), (Modenlek, 2019), (Demirkan & Spohrer, 2015), (Khan, 2020). The specific use of the terms ‘collaborate’ (16%) and ‘adaptability’ (15%) was noted in less than 20% of the job postings.

Figure 3 is illustrative of the combination of a fashion professional's expertise within a specific job expertise (T), (the domain of knowledge), and the need for skills outside of one's expertise (CF) (horizontal line). Results from the data collection of skill terms used in fashion industry job postings were both expected and surprising. As the

most mentioned skill across all job posting, the requirement of communication, and specifically, written and verbal, was an anticipated finding, as was the requirement of proficiencies in the Microsoft Office applications, and organizational skills. What was unexpected was the number of skills mentioned in less than one-third of the job postings. The existing literature calls for adaptability, collaboration, problem-solving, and critical thinking, yet all of these skills were specifically mentioned in less than 20% of all job postings (Appendix E). Additional exploration of what skills are necessary for fashion professionals is required. To validate the content analysis findings and the skills that make up the T-shaped fashion professional, Step 2 was an empirical approach to identify essential skills for fashion professionals required by current, experienced managers and recruiters in the fashion industry.

Study Approach: Step 2 – Empirical Study

Consistent with the comparative analysis characteristic of grounded theory, the second step of this study aimed to provide empirical data analysis to determine which skills fashion professionals need to be adaptable to the growing complexity of the fashion industry from industry professionals' perspective. This approach built off the results from Step 1 by examining a) what skills within one's specific disciplinary domain, or technical skills, are necessary to perform and adapt in the fashion industry, and (b) what skills outside of one's specific disciplinary domain, or cross-functional skills, are necessary to perform and adapt in the fashion industry.

Sampling – Step 2

To generate the data needed to inform and validate the theoretical T-shaped skills framework for the fashion professional, theoretical sampling was used. Participant

recruitment was done through the researcher's professional connections to fashion industry professionals. To follow the data collection approach of Step 1, the sampling was specific by job categories previously identified. The recommended sample size for GT research design is 20-30 participants or until theme saturation is met (Creswell, 2007). Twenty-five participants were recruited through email and provided an informative description of the study (Appendix B). The original goal was to recruit two or more fashion industry managers from each of the 13 job categories, however, data saturation was met with the first 13 participant interviews. As shown in Table 4, the final participants included two merchandising and buying professionals, two product sourcing professionals, two fashion designers, one technical designer, two planning and allocation professionals, one product development professional, one eCommerce/consumer strategy professional, one retail store manager and one sales account executive. One of the participants is a manager of design and technical design employees and provided content for both job categories. Another of the 13 participants managed employees from both product development and digital consumer strategy and analytics. The final participant pool included 10 out of the originally identified job categories (Table 4). Those job areas not included in this step of the study were visual merchandising, fashion styling and operations.

Table 4.

Step 2 Study Qualifications of Industry Manager Participants

Participant Pseudonym	Participant Title	Job Category	Industry Tenure as of 12/20	Managing Experience as of 12/20	Company Size
Amy	Merchandise Planning and Process Director	Planning, Allocation, eCommerce Merchandising	14 years	6 years	Large
Alison	Merchandise Manager	Buying, Merchandising	12 years	9 years	Small
Jess	Manager - Trim and Packaging	Product Sourcing	6 years	3 years	Large
Juliet	VP eCommerce and Marketing	eCommerce, Consumer Strategy, Product Development	13 years	8 years	Small
Kara	Designer I	Fashion Design	7 years	3 years	Large
Laurel	Associate Product Manager	Product Development	7 years	2 years	Large
Linda	Global Director – Packaging and Trim	Product Sourcing	11 years	11 years	Large
Mary	Divisional Merchandise Manager	Buying, Merchandising	18 years	10 years	Large
Lee	Director of Sourcing and Supply Chain Consultant	Technical Design, Product Sourcing	15 years	12 years	Medium
Rick	Merchandise Planning Manager	Planning, Allocation	8 years	3 years	Large
Seth	Director of Design	Fashion Design, Tech Design	10 years	4 years	Small
Burt	District Sales Leader	Retail Sales Management	31 years	30 years	Large
Van	Account Executive	Wholesale Sales, Distribution	11 years	2 years	Large

Note: Business size terms are derived from commonly used standards and are defined as Small (0-100 employees), Medium (101-999 employees), Large (1000 or more employees) (Sangoman, n.d.).

In-depth interview – Step 2

GT methodology is developed to gain knowledge from those that are "as close to the inside of the experience as possible" (Charmaz, 2003). To discover the interpretations and meanings of the fashion industry's required skills from those that manage and train fashion professionals, an in-depth, semi-structured interview protocol was used (Table 5). The interview process aimed at discovering what fashion managers think are the necessary skills for fashion professionals to adapt and effectively contribute to the industry's workforce. The use of in-depth, semi-structured interview questions allowed for introducing the topic and discovering new, different, and conflicting themes through probing and follow-up questions. During the first two interviews, having the participants rank each term mentioned proved confusing and seemed to force ranking as a means of elimination instead of more authentically identifying the most important skills. Table 5 shows that RQ2, #3 was revised to a more general, probing interview question for the remaining 11 participants. Overall, this data collection approach provided comparative data across participants while also facilitated open expression based on participants' experiences and expertise (Savin-Baden & Major, 2013).

Table 5.

Step 2 Interview Questions

Initial Questions: Fashion industry and participant's role	1. Tell me about your experience in the fashion industry. How is the industry different today than when you first became a fashion professional?
	2. What is your role in the company, and how has that role changed over time?
	3. What skills do you feel enable you to perform your job? What skills contributed to achieving your current position?
Intermediate Questions: Managing direct reports	1. Tell me about your experience managing other fashion professionals.
RQ1: Technical skills	1. Describe the technical skills that you feel a fashion professional must have in order to meet current job expectations and organizational goals? 2. What other technical skills must a person have to meet the future job expectations?
RQ2: Cross-functional skills	1. Describe the soft skills/CF skills that you feel a fashion professional must have in order to meet current job expectations and organizational goals? 2. What other CF skills must a person have to meet the future job expectations? Probe further.
	3. *Pilot Question: Which of these skills is the most important? Could you rate the skills in the order of importance from the skills you mentioned earlier? (Researcher will recap skills previously mentioned).* Revised: Which of these skills are the most important? Probe further.
Ending Questions: Fashion professionals' workforce preparedness	1. Share your thoughts on how prepared fashion professionals are when entering the workforce. What skills do they possess, in your opinion? What skills do they not possess, in your opinion?
	2. Share your thoughts on how future fashion professionals acquire the skills to be prepared for the workforce.
	3. What other thoughts would you like to share?

Data collection – Step 2

Interviews of participants were conducted via Zoom and telephone between December 12, 2020 and February 5, 2021 and were recorded within those platforms. Interview lengths were between 30-60 minutes and session recordings were transcribed in Microsoft Word and saved to the researcher's hard drive with password protection. Notes were written in a field journal to record research observations and discoveries throughout the interview and transcription process.

Data analysis – Step 2

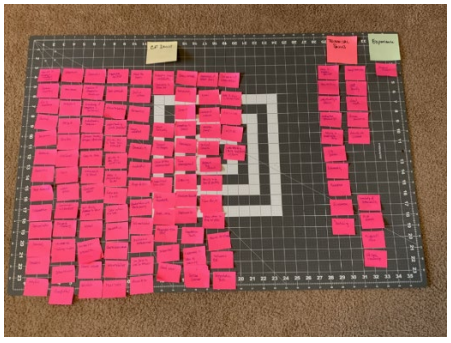
A similar coding system to Step 1 was used to identify skill terms, skill categories, and frequency of skills mentions across all interviews. Initial readings of the transcripts identified transcribing questions or errors, and video recordings were reviewed again to revise transcription contents. During the second reading of each transcript, skill terms were highlighted based on three criteria. The first skill identification was for skills mentioned as important to a professional's job competitiveness and their ability to meet job and company expectations. The second highlighted criteria were for those skills that fashion professionals lacked in the workplace. Skills that participants felt they personally lacked when entering the fashion industry were also highlighted. Transcripts revealed that when participants responded to questions about future skill needs, skills necessary in the new, post-pandemic, fashion workplace were noted, and those were also coded within the transcribed content. All highlighted skill terms were recorded into Microsoft Excel with similar spreadsheet formatting established in Step 1.

Data analysis of the interview content followed the cyclical process from the content analysis. Terms and phrases highlighted within the four criteria were cultivated

from individual transcripts, listed on a data tab, and identified with the participant's pseudonym, occupation, and location found within the transcript. In the second round of coding, skill type was categorized and resulted in 19 terms associated with technical skills and 50 terms associated with cross-functional skills as previously defined. A third review of the terms was conducted to further identify skill specifics for those skills mentioned aligning with Microsoft Office, Adobe Creative Suite, and communication. In addition to mentions of Microsoft Office, Excel, PowerPoint, Outlook, and Teams were also explicitly called out as skills needed. Adobe Creative Suite included individual mentions of Illustrator and Photoshop, and communication was also referred to more specifically as verbal, written, listening, and presentation skills. An additional coding step included comparing all terms to the original mentions in video transcripts and the interviewer's journal to ensure consistent interpretation and identification across all 462 words and phrases identified across the 13 transcripts. This involved keyword identification in the Excel worksheet and a visual test with color-coded Post-it notes, as shown in Figures 4, 5, and 6.

Figure 4.

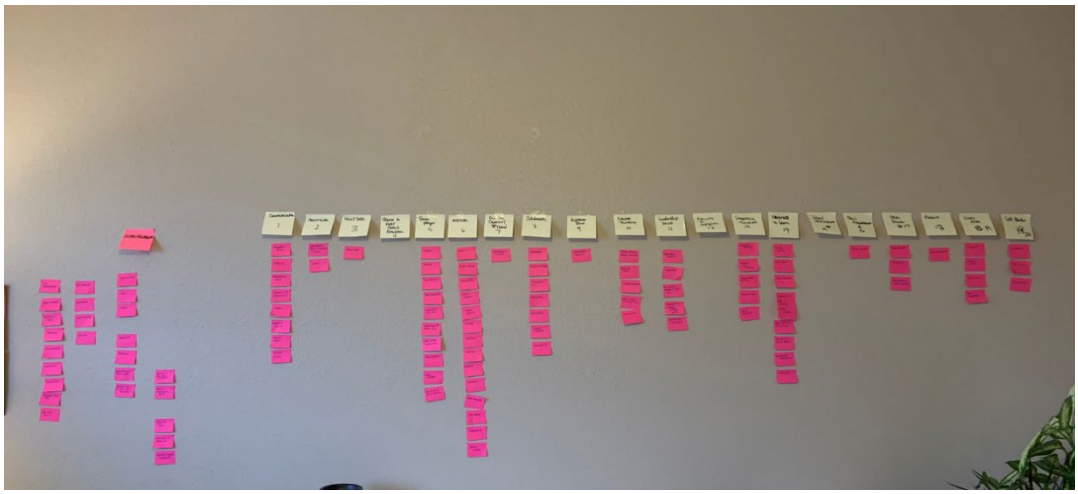
Fashion Industry Managers' Skill Terms Categorization



Note: This figure details the categorization of industry manager skill terms in to cross-functional skills, technical skills, and experience. study data from Step

Figure 5.

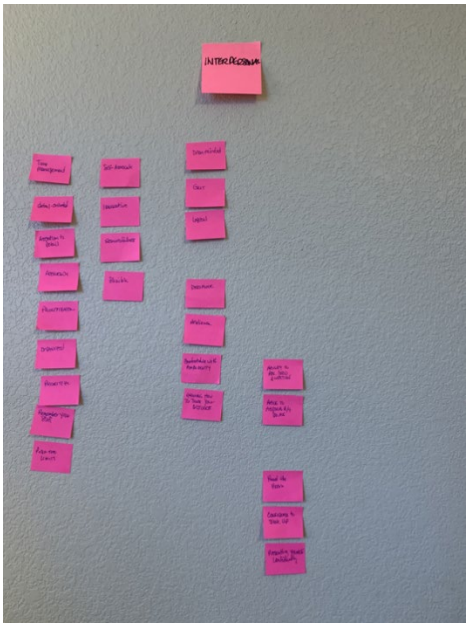
Fashion Industry Managers' Skill Terms Categorization as Cross-functional Key Terms



Note: This figure illustrates the categorization of industry managers' term alignment to CF key words as identified in Step 1.

Figure 6.

Fashion Industry Managers' Interpersonal Skill Terms



Note: This figure illustrates those words used that align with the definition of interpersonal skills.

At this point in Step 2 analysis, a comparison between Step 1 and 2 was conducted. This comparison revealed an inconsistency between the two steps with regards to the analysis of term mention frequency. Step 2 data was reevaluated using the same frequency identification process as Step 1, and these results were recorded on another tab within the Excel file. The revised coding and analysis focused on the frequency of each CF and T term as mentioned across all interview participants to match the analysis of CF and T term frequency across all job postings in Step 1. After completing this last step, the final term classification of the data collected from the 13 interview participants resulted in 12 technical skills and 43 cross-functional skills identified as necessary for new fashion professionals to meet job expectations and organization goals (Appendix F). With the purpose to validate the previously proposed T-shaped person skills framework for the fashion professional, this empirical step of identifying skill terms that current industry managers deem necessary for new fashion professionals resulted in modifications to the original framework components.

To ensure the quality of the research, the study addressed validity and trustworthiness through the research design. Validity was achieved through collecting data from industry managers who have first-hand knowledge and experience of the skills needed by fashion professionals in the fashion industry. Step 2 of the research methodology included industry manager interviews until data saturation was met and thick descriptions of the data contribute to the study's trustworthiness. As a former, long-term fashion industry manager, the researcher's stated positionality contributes to the research findings' credibility. To avoid misinterpretation due to the researcher's own assumptions, the final proposed T-shaped person framework for the entry-level

professional was sent to 50% of the study's interview participants to member-check the final term's interpretation importance ranking. Appendix G shows the email communication sent to contact research participants. Seth's reply to the member-check request represents the other participants' confirmation of the final proposed skills framework.

> I'm confirming your T model accurately interprets the range of topics we discussed. I think everything you listed in the horizontal line reflect key attributes for a job-seeker, from my perspective.

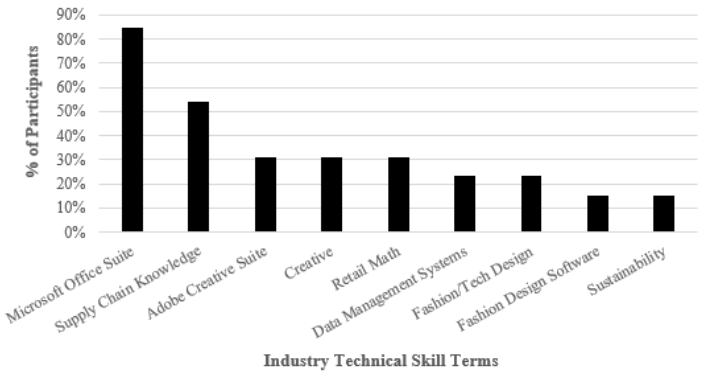
This enhanced the trustworthiness of the study finding. the data interpretation and analysis.

CHAPTER IV

The analysis of the skill terms mentioned by the fashion industry participants in the empirical study of Step 2 are shown in Figures 7 and 8. Appendix F provides the full detail of the CF and T terms and their ranking as mentioned across the 13 interviews. Having been developed through content analysis of industry-wide job postings from Step 1, the T-shaped person framework was modified to adjust for the skills identified by fashion industry professionals who manage new professionals. Those skills mentioned and ranked by the manager participants for those current and future fashion industry skill requirements are illustrated in Figure 9.

Figure 7.

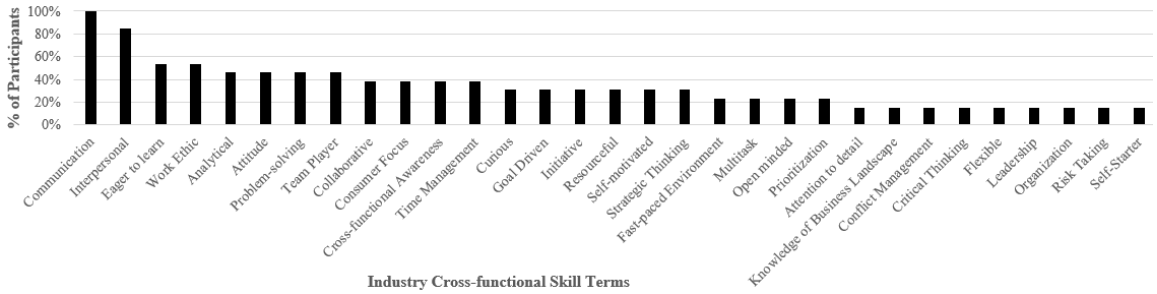
Technical Skill Terms Identified by Fashion Industry Managers



Note: This figure illustrates the percentage of industry managers who mentioned T skill terms needed for new fashion professionals collected in Step 2.

Figure 8.

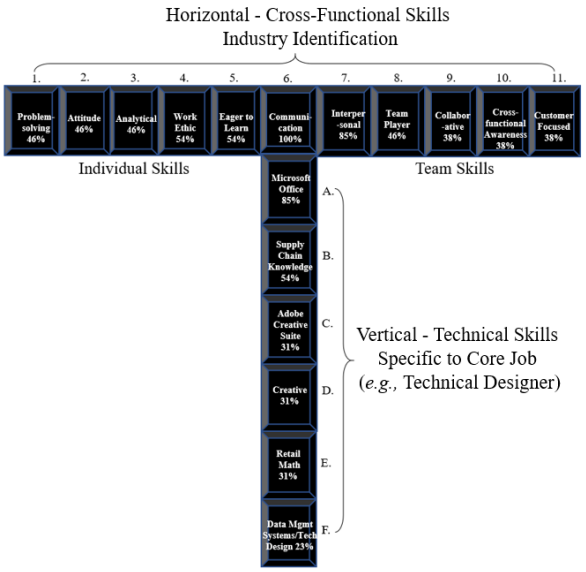
Cross-functional Skill Terms Identified by Fashion Industry Manager



Note: This figure illustrates the percentage of industry managers who mentioned CF skill terms as necessary for new fashion professionals in Step 2.

Figure 9.

Fashion Industry T-shaped Person Framework for Technical and Cross-functional skills



Note: This figure details the CF skills required by the fashion industry and T skills most often requested for specific job domains from data resulting from Step 2.

Technical Skills

As defined by *BusinessDictionary.com* (n.d.), technical skills are those skills "required for the accomplishment of a specific task". In the data collection for Step 2, the skill terms mentioned by the fashion industry managers as required or important for a new professional to possess were consistent with those mentioned in job postings in Step 1. Microsoft Office (Label A) was the most required technical skill, with 85% of all participants mentioning it as most important (Figure 9). Within the MS Suite, 11 out of 13 participants identified Excel as an essential skill. These 11 participants spanned job categories from fashion and technical design to buying and product sourcing. However, managers were more specific about what proficiency level was necessary for Microsoft Excel. All Step 2 participants emphasized the necessity for new professionals to be able to do more than just build spreadsheets. Employees across all the job categories need to be able to interpret spreadsheet data and use Excel to articulate business metrics. To support this, Amy, planning and digital manager, stated

> …even in the design area, in the product development, we're sharing information using Excel. Sometimes it's sharing of information, sometimes it's analysis, but you need to have the understanding of how to use that [Excel] and how to leverage that in terms of everyday business.

As a director of technical design, Seth connects data interpretation to Excel stating that tech designers need a " baseline understanding of how Excel works

and how to enter information into Excel and how to make the data tell you what it wants to tell you".

Microsoft PowerPoint was a more recently required skill by 8 of the 13 participants due to remote working conditions resulting from the COVID 19 pandemic. As a merchandising manager, Mary concurred this as follows:

> PowerPoint has also become more of a necessity… in a world where we don't have offices or sample rooms or things… my teams are having to take what the designer has [CAD] and do some clipping and snipping into PowerPoint to present to a Senior Vice President, what their assortment is going to be.

Adobe Creative Suite skills (Label C) were also consistent between job postings mentions and industry manager's requirements (Figure 9). Expert-level Photoshop and Illustrator skills were required by all three design managers and by the eCommerce digital manager. In addition to designing through Adobe, fashion software experience, such as 3-D design, was mentioned as desirable by the design managers. Overall creativity (Label D) was an assumed skill for 31% or 4 of the participants, which may explain why only 5% of job postings called creativity as a specific requirement. Based on her experience as a designer and manager, Kara ranks creativity as the most important T skill for new fashion design professionals. She stated that "you need to be able to pull inspiration from all over the market…design a creative and inspiring and aesthetically beautiful collection". Creativity connected to being innovative was mentioned by Rick, a

planning and allocation manager, who spoke of creativity in terms of problem-solving. “They [entry-level employees] need to innovate, color outside the lines.”

Another similarity between results in Steps 1 and 2 was the mention of retail math (Label E) as required, ranking third for entry-level job postings and tied for third ranking for industry managers. As a product development manager currently developing a product for an eCommerce site, Juliet called out the necessity of “understand[ing] the math of margin” and having a business acumen to know how metrics worked together.

An interesting discovery was the mention of supply chain knowledge (Label B) as necessary for new fashion professionals. As defined by Basak et al. (2014), the supply chain refers to those involved in the entire process of product development to meet a consumer need. Throughout the continuous flow of products and information, the stages required include supplying raw materials, manufacturing, wholesaling, distribution, retailing, and consumption (Basak et al., 2014). Over 50% of the managers interviewed in Step 2 considered knowledge of operations and linkages of stages and functions along the supply chain an important skill to have when coming into the fashion industry. These managers represented a breadth of functions such as merchandising, product development, planning, and technical design. In the fashion design discipline, Seth discussed the necessity of understanding the supply chain process. He stated that designers need to “understand that the design is only relevant to how it can be produced”.

Juliet noted that while fashion college students will be focusing on learning specific functional skills, they also need awareness of the bigger production picture.

> …[it] is going to be really critical for tomorrow's makers…[to] have a working knowledge of the entire process. You need to understand the entire process enough to make what you do impactful to the company that you're trying to bring value [to] at the end of the day.

One Step 2 participant ranked supply chain knowledge as the second most important technical skill, in his opinion. Van is a wholesale apparel account executive who credits knowing how each function relates to his career success and relationships with his retail accounts. He stated, "…you really have to know about the supply chain; that's probably one of the most important things in [working with and] developing a garment [with his accounts]".

The last box shown in Figure 9 aligns directly to individual functions. In the illustrated Label F, skills in data management systems, like PLM and PDM, and technical design skills, such as patternmaking and garment construction, were identified as necessary for technical designers. Two participants mentioned knowledge of sustainable practices as becoming a more important technical skill. Product sourcing manager Jess, and designer, Kara, both mentioned sustainability practices as future skill needs that college students should be exposed to in courses. Jess referred to exposure and knowledge about sustainable packaging materials and manufacturer's CSR practices.

Kara mentioned sustainability in terms of raw materials and manufacturing textiles and the constant effort to incorporate sustainable fabrics into the company's designs.

> …we do so much of creating new fabrics from scratch, whether it be combining different contents or different sized yarns or using a new, sustainable fibers that are out there in the industry…that's what we talked about every day now, and we're constantly finding new sustainable eco-friendly vendors to work with in the industry…it's a whole different ballgame.

Cross-functional Skills

As previously proposed, the definition of cross-functional skill for the fashion industry is the abilities to do something well outside of one's specific knowledge domain in order to effectively collaborate with individuals and/or teams, to achieve team(s)' goals in the fashion industry (Leiby & Ha-Brookshire, 2020). With this definition in mind, 45 cross-functional skills were recorded as necessary for new professionals to be competitive in the job market and meet job expectations in the industry, as noted in the industry manager interviews. Figure 8 provides ranking detail of the 31 cross-functional skills identified based on terms mentioned by two or more of the study's participants.

As was the case with the job postings, communication (Label 6) was the top-mentioned CF skill, shown in Figure 9. All Step 2 participants ranked overall communication as the most critical skill required for fashion professionals. The particular methods of communication varied in importance across the participants, with

85% of the participants identifying verbal as important, 54% mentioning good writing skills as necessary, 38% indicating listening, and 31% of participants viewing presentation skills as essential communication skills for the industry. Step 2 participants' Jess, Kara, Laurel, and Seth agreed that email communication was especially important now given the shift to remote working. Doing business cross-functionally across the global supply chain is almost entirely accomplished through electronic communication. Knowing how to adapt email communication to the intended international audience is critical to business objectives. Jess manages a team that primarily works with international sourcing partners. She specifically noted the challenge new employees have with communicating through email.

> Being able to type a coherent email is something that entry-level people really struggle with because we…work with a lot of people who English is not their first language. So, you have to be able to write a clear email that doesn't use jargon, that's easy for someone to understand…[you need to] communicate like you're telling someone everything for the first time.

Presentation skills are also becoming more important due to virtual meetings being the primary meeting format. As mentioned with PowerPoint technical skills, virtual meetings require fashion designers, technical designers, and buyers to use PowerPoint presentations in place of physical product samples, assortment planning rooms, and fabric swatches. Business disciplines such as planning, and allocation are also relying more on presentation skills. Amy notes,

"the other big thing that really becomes critical is presentation…not just creating the physical presentation but being able to present to a group". Designers are not able to present their design renderings in person due to the pandemic.
Kara describes the current virtual experience as "you're presenting it [your collection] …it [virtual meetings] makes presentation skills that much more important since people are literally lasered that in on you when you're presenting a collection virtually".

Three of the top 10 CF skills mentioned by the industry managers in Step 2 ranked much higher in skill requirements than were mentioned in the job postings in Step 1. Interpersonal skills (Label 7) were mentioned as necessary by 85% of the managers, eagerness to learn (Label 5) by 54%, and work ethic (Label 4) by 54% of the managers (Figure 9). With this increase of importance from the initial content analysis, it is important to detail each of these three in more depth.

Interpersonal skills were mentioned interchangeably with soft skills. The way the participants used the term and descriptions provided by managers when identifying interpersonal skills align with the findings in the literature review. As noted in the literature review, the term interpersonal skill is the ability to build relationships (*MacMillian Dictionary*, n.d.). Of those Step 2 participants noting interpersonal skills as essential, 69% expressly referred to 'relationship building' as vital to meeting job objectives. When asked what fashion professionals need to be successful, Jess stated, "relationship building and management [of relationships] is super important because the fashion industry is so cross-functional". Alison, Linda, and Kara attributed their professional success to

building relationships. Kara specifically mentions relationship building as the key to career progression.

> I think that being able to network cross-functionally and build relationships cross-functionally, it has also helped me. I think that when you're seen as such a team player and…works really well with all your cross-functional parties… that's going to help you move faster along your career path.

The eagerness to learn was a skill that managers identified as a key factor in whether a new fashion professional thrived or failed in their companies. This is consistent with Cole's (2019) reported statistic that 83% of fashion industry professionals saw the ability to learn as a critically needed skill for workers to keep up with the rate of change in the fashion industry. Jess ranked eagerness to learn as her number one skill that new employees must have when starting a position. From the perspective of fashion design, Kara pointed out that eagerness to learn was one of her most important criteria when evaluating new employees; "You just need to be a quick learner, and you need to be open to learning". The motivation to learn was also attributed to Amy's personal and professional growth, whose experience includes developing a cross-functional-based internship program for a large apparel wholesaler. She stated that everyone must have "a continuous learning mindset that whatever skills that you're walking out of college is only the foundation and you have to be in that mindset to continually build that skill set".

Associated with eagerness to learn, curiosity emerged as a new term in the analysis of Step 2. Curiosity is defined as "an eager wish to know or learn about something" (*Cambridge Dictionary*, n.d.). Amy, Jess, Juliet, and Linda used the terms 'curious' and 'curiosity' as those essential skills outside of an employee's core expertise. Linda discussed how curiosity was linked to discovering career opportunities.

> I think, especially for kids coming out school, it's just so important to be curious because you may understand your little piece [job function]…but you're going to be involved in other larger meetings that involve cross-functional partners and if you're not [curious] then you're missing an opportunity to learn about the bigger picture…[you] may be missing an opportunity to see something that's interesting to you going forward.

Jess noted curiosity as a skill sometimes lacking in entry-level employees.

> [The] curiosity part is something that I found lacking in people that I've hired and it's very much, just like taking direction and executing versus trying to see the big picture...in order to be really successful, you need to be able to put the pieces together.

Work ethic was another skill with increasing importance due to the new way of working the industry has adopted to adapt to the disruptions caused by the pandemic. Managers noted that some of their newer employees experienced a loss of focus and self-

motivation in their remote working conditions, which affected productivity. When talking about how her team is performing by working at home since April 2020, Linda notes, “I think there's a potential to have a hard time focusing, but I think that younger people have a harder time focusing at home”. Other terms such as time management, discipline, and professionalism were skills managers mentioned as being affected by working remotely. *Cambridge Dictionary* (n.d.) defines ‘work ethic’ as “the way that someone feels about the importance of work, usually the belief that it is important to work hard”. As a long-time retail sales manager, Burt ranked work ethic as the most critical skill for new managers; “One thing is you have to be, you have to have an undying work ethic because it is hard work.” Allison, Amy, Seth, and Juliet mentioned a perceived generational difference with regards to work ethic expectations. Allison is a product development manager who graduated from fashion school in 2015. She specifically looks for signs of strong work ethic when reviewing resumes and interviewing for entry-level positions.

> …it's hard to find those that are willing to go the extra mile, or maybe put in some extra time…just [for] this generation, you could say the work ethic looks a little bit different and they have different priorities now than, you know, different generations did. I understand that and I am all about work life balance. But if you're someone who wants to come out of school and really jump in, and further your career and climb up that corporate ladder, you’ve got to know that it's…not just doing what the job is, but really doing above and beyond and putting in, you know, that extra effort in that extra time.

Similar to the findings in Step 1, Figure 9 conceptualizes the highest-ranking CF skills from the Step 2 term analysis along the vertical portion of the T-shaped person framework. Analytical (Label 3) and attitude (Label 4) ranked in the top 10 required CF skills based on industry managers' comments. Six of the participants mentioned analytical as an important CF skill. The ability to gather information, interpret the data, solve problems and make decisions based on the analysis findings is referred to as analytical skills (Doyle, 2020). Linking analytics to problem-solving, Rick remarked that "…a true skillset that you can bring to the table is just be [sic] strong in analytics and like to [solve] puzzles". Managers involved with planning and digital analytics noted that it is essential for new professionals to be comfortable with data and know where the information is and how to connect all the data that exist in an organization. As Amy stated, "it's kind of being able to leverage all of those different entry points of information quote…[then] ask good questions in terms of business analysis". The comments of the study's participants concerning the importance of analytical skills support the statement from Modenlak (2019) that this skill is necessary for agility and adaptability in the highly competitive fashion industry.

Forty-six percent of Step 2 participants mentioned 'attitude' as a deciding factor to meeting job expectations and working effectively in teams. The frequency of Step 2 participants mentioning of 'attitude' when responding to what cross-functional skills are required for new employees led to the coding of this term as a CF skill. However, there are varying definitions of 'attitude' in

existing findings. *Cambridge Dictionary* (n.d.) defines 'attitude' as "the way you feel about something or someone, or a particular feeling or emotion". Other definitions of 'attitude' state that the term is a dimension of soft skills (Ramesh, 2010). Wesley et al., (2017), reported that 'positive attitude' was a top ten ranking soft skill among business executives, linking attitude as a component of soft skills. Given the association of 'attitude' to soft skills in multiple findings, and the previously established connection of soft skills to CF skills, the term 'attitude' is confirmed as a CF skill for the proposed model. Organizational behavior findings have noted that an employee's attitude directly relates to their job performance and their contribution for the good of the organization (Rahiman & Kodikal, 2017). Similar to other research findings, those employees with positive attitudes encourage collaborative team behavior (Ray, 2017). In addition to the mention of the word 'attitude', other terms such as amicable, optimistic, enthusiastic, passionate, and fearless were used to describe preferred behavioral qualities. Kara tied attitude to being a good team player, "…working in teams, I think just being thoughtful, just being extremely helpful". Participants connected attitude to having the ability to take initiative, risk-taking, and conflict management with Mary linking terms together as an overall requirement; "…have a lot of courage, taking initiative, and risk-taking kind of all [together]".

Included in the vertical line of the framework shown in Figure 9, team player (Label 8), collaborate (Label 9), and cross-functional awareness (Label 10) were terms used by participants as essential CF skills given the complexity of the fashion industry supply chain. The Step 2 managers' indication that 'collaborate'

is the act of connecting with team members and building relationships provides empirical evidence to support the previously stated definition. *MacMillian Dictionary* (n.d.) defines 'collaborate' as "working with someone in order to produce something". However, the participants' use of the term was also explicitly tied to being aware of others' job functions. Jess noted the increasing importance of collaboration due to changes resulting from the shift of former partnership practices to collaborating globally.

> …your success is their success and vice versa so you have to approach it with a different non-traditional attitude. I think in the past it was very much transaction-based between like a head office and a supplier but we're moving towards being more collaborative in integrating teams more and you know, building a partnership with that makes sense.

In Step 2, study participants revealed another term with 'cross-functional' as a qualifier that had not been identified previously in the literature review, 'cross-functional awareness'. In one study related to ERP systems, 'cross-functional awareness (CFA)' was defined as 'the cognitive ability of the actors of an organization to understand the interdependencies inherent in the business…" (Marciniak et al., 2014). The researchers of the ERP study noted by adopting awareness of how their roles influence and intersect with other functional roles, employees approach processes through a cross-functional view instead of through the lens of their own role's functions. Within the data analysis of

Step 2, cross-functional awareness was specifically linked to having the ability to effectively collaborate and add value to internal and cross-functional teams. Seth was one of the participants that emphasized the importance of new employees connecting with other job functions to build reciprocal helping relationships.

> You need to have your closest working partners to be your trusted go to, and you need to rely on them, [and] when you need something that they're going to do it for you. I think [it is] just a courtesy, in terms of how you understand the demand with their job and how you can make it easier for them in order to get what you need out of it.

Mary connects awareness of other's roles ultimately to the customer experience. She instructs new employees to "understand what they [support function partners] do, because the more you understand how your work affects them, the better the work will be, and the better experience for the customer too". A former fashion school student, Kara recommended that programs provide students opportunities to simulate industry working experiences across other majors and disciplines. She bases this on her own academic experience by noting her lack of preparedness, stating, "there's all these cross-functional parties involved in your day-to-day, but we never actually got to do a fake cross-functional project like that".

The results of analyzing and comparing the T and CF skills listed in job postings in Figure 3, with those identified as required by fashion industry managers in Figure 9, points to the need to modify the proposed T-shaped person

framework. With the inclusion of first-hand information from industry professionals with recent experience hiring and managing entry-level fashion professionals, the final proposed T-shaped person framework represents those skills that better reflect real-world fashion industry skill needs (Figure 10). The final T-shaped person skills framework was sent to industry manager participants for review and confirmation of term interpretation and ranking and approval responses enhanced the trustworthiness of the analyses and results.

Synthesis of Step 1 and 2

The empirical research approach in Step 2 of the study resulted in discovering those skills required within one's specific domain (T skills) and those skills outside of one's specific knowledge domain (CF skills) identified by fashion professionals currently managing employees in the industry. The comparison between Step 1 and Step 2 results was conducted through multiple layers of collected data review and analysis, including repeated review of the content analysis conducted in Step 1. Using the grounded theory methodology led to constant comparative analysis between the two study approaches and led to multiple variations of data interpretation. The content analysis in Step 1 originally included 450 job postings across 13 job categories and multiple hierarchical levels, such as director, manager, assistant, and VP. Based on this breadth of functions and professional levels, the T-shaped person framework for the fashion professional was developed and proposed (Figure 3).

The analysis of Step 2 data identified T and CF skill terms mentioned by fashion managers. However, the researcher discovered that all managers

referenced entry-level professionals, rather than all position levels, when identifying those specific skills required for new employees to meet job expectations and company objectives. This resulted in skills such as 'interpersonal', 'eager to learn', and 'work ethic' with higher ranks in importance than indicated in Step 1. This realization required another level of analysis to be conducted on the data collected in Step 1.

The job postings collected in the content analysis approach were further coded by professional level after the analysis in Step 2 to synthesize all results. Skill terms specific to each of the 13 job categories for entry-level positions were analyzed following the initial process in Step 1. A final comparison of the resulting entry-level skill terms used in job postings and those terms used by the industry manager study participants resulted in a final ranking of T and CF terms from the content analysis and empirical study results. The ranking comparison between Step 1 and Step 2 resulted in the modified T-shaped person framework for the entry-level fashion professional, shown in Figure 10. Figure 10 includes those skills that were validated, modified, discarded and added to the original framework shown in Figure 3. The multi-directional, concurrent data collection and iterative process of GT methodology led to the development of a more relevant and meaningful skills framework for the fashion industry.

The T-shaped person skills framework shown in Figure 10 illustrates the necessary skills for new fashion professionals to be prepared for the industry workforce and meet job expectations. he vertical ('I') portion of the T-shaped framework indicates those T skills specific to one's expertise. Microsoft Office

was required by 73% of the job postings and 100% of the industry study participants (Label A). Supply chain knowledge was also required by the majority of the study participants (Label B). The remaining components of the vertical line ('I') indicate skills that are more specific to individual job functions.

Cross-functional skills make up the horizontal line of the skills framework. In addition to skills being confirmed and ranked as a result of the synthesis of Step 1 and Step 2, the skill labeling for the horizontal line was modified to better align with the ranking importance of those skills associated with individual CF skills (left side of the line) and CF skills required in team settings (right side of the line) (Figure 10).

The empirical data analysis results required additional skills to be added to the CF portion of the framework. As shown in Figure 10, Label I/T1 confirms the overall highest ranking CF skill and that skill required across teams and individually, as communication. 'Interpersonal' (Label T2), 'eager to learn (Label I2), and 'work ethic' (Label I3) were ranked higher by the Step 2 fashion manager participants than in Step 1 job postings which resulted in the inclusion of these skills into the final skills framework. Label I4 repeats the importance of being analytical for new fashion professionals, and Label T3, 'team player', is directly related to the job posting term 'team partnership', shown as Label 8, in Figure 3.

In addition, 'attitude' (Label I5) was similar in rank between Step 1 and Step 2. While 'problem-solving' (Label I6), 'collaborative' (Label T4), and 'customer focus' (Label T6) were terms collected in the content analysis of job

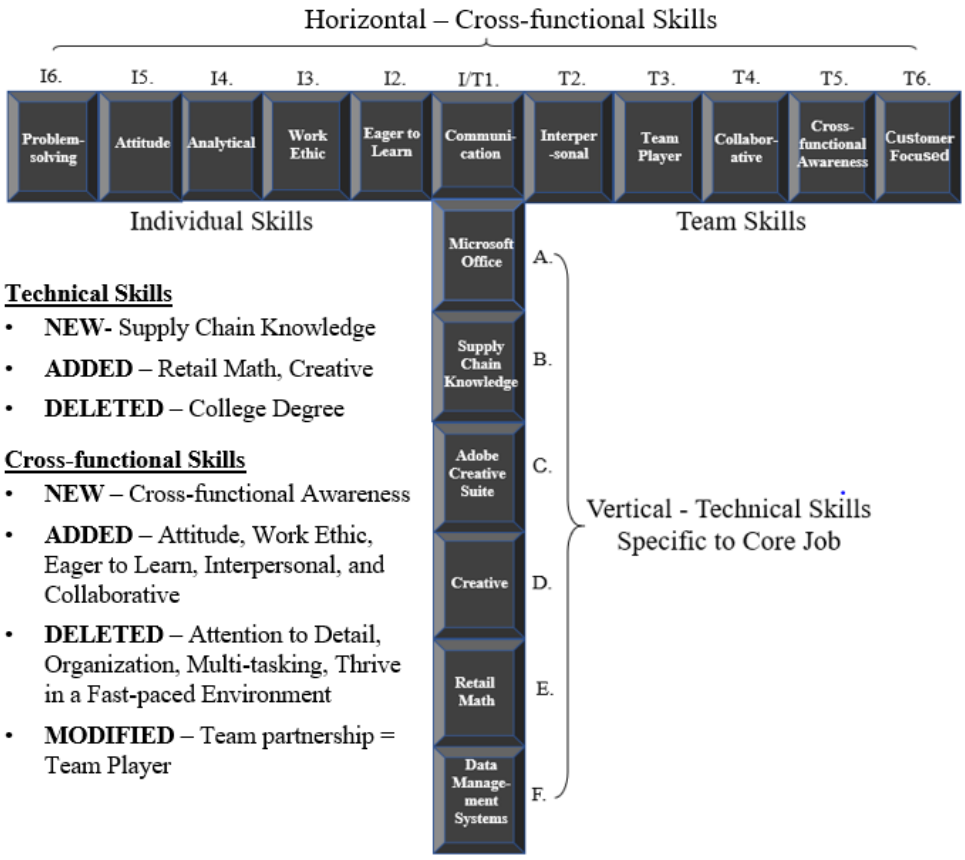
postings, the ranking of these three terms in the empirical data analysis was significantly higher than in the content analysis. The inclusion of these three terms indicates the alignment of industry managers to literature noting the importance of these skills in the quickly evolving fashion industry (Andersson et al., 2019; Chi, Lui, Salusso, McCracken, 2018; Modenlek, 2019; Demirkan & Spohrer, 2015; Khan, 2020).

The industry manager participants in Step 2 related cross-functional awareness with knowing how one's job affects others' work while also approaching team collaboration as being part of a whole instead of an individual. As a fashion program alum and a tenured technical designer, Step 2 participant Lee points out that fashion students need to know the connection between different industry job functions. She phrases it as a comprehension of "how does this job set connect to the others in an apparel company". Cross-functional awareness was added to the original skills framework as crucial for performing within and across a team (Label T5).

This study aimed to propose a skills framework for the fashion industry professional. With the findings from the content analysis and empirical evidence, the proposed T-shaped person skills framework for the entry-level fashion professional illustrates the five top-ranked skills required within an employees' domain of knowledge (vertical line) and 11 top-ranked skills required outside of one's domain of knowledge (horizontal line) (Figure 10).

Figure 10.

Fashion Industry T-shaped Person Skills Framework for the Entry-level Professional



Note: This figure details the CF skills required by the fashion industry and T skills most often requested for specific job domains derived from the synthesis of results from Step 1 and Step 2.

CHAPTER V

The shift to consumer-focused business models, advancement of innovative technology, and increasing efforts to achieve sustainability across the supply chain has led to new skill needs for the fashion industry (Modenlack, 2019). These new skill needs are largely those aptitudes necessary to adapt and collaborate across teams in the fast-paced fashion global environment (Pearlt, 2019). While these softer skills are commonly referred to as cross-functional skills, there is limited evidence that a definition of the term 'cross-functional skills' has been established for the fashion industry. This is the first research gap addressed in this study. Another gap identified is the limited findings on what cross-functional skills are required for fashion professionals to meet job expectations and organizational objectives in the current and future industry landscape. This study proposes a clear definition of 'cross-functional' skills for the fashion industry and the T-shaped person skills framework to guide academia and organizations on those skills required for the current and future new fashion professional to meet job expectations and adapt to the continually changing supply chain. Two research approaches were developed and followed GT methodology. A content analysis of industry job postings and an empirical study of current industry managers' identified skill requirements provided the data to achieve the study's two-step purpose.

Summary of Findings

The first approach of the study investigated available literature on the term 'cross-functional skill'. While some definitions existed, there was little evidence of an existing definition specific to the fashion industry. The team and group attributes related to CF

skills identified from the literature review were incorporated into the proposed definition of CF skills for the fashion profession to fill this gap.

> Cross-functional skills are defined in this study as the abilities to do something well outside of one's specific knowledge domain in order to effectively collaborate with individuals and/or teams, to achieve team(s)' goals in the fashion industry (Leiby & Ha-Brookshire, 2020).

Given the proposed definition of CF skills and the documented definition of T skills, identifying what T and CF skills are required by the fashion industry addressed the second gap in the existing research. A content analysis of 450 job postings across 13 function categories was conducted, and those skills listed in the recruitment literature as required and preferred were collected and analyzed. With the increased use of skill frameworks across multiple disciplines, the content analysis results led to the initial development of the proposed T-shaped person skills framework for the fashion professional (Leiby & Zhao, 2020).

The initial framework required validation of the terms used to build the model for current and future skills required by fashion professionals in managerial roles. An empirical approach was used to interview current industry managers and collect real-time and future T and CF skill requirements. Following the data collection and analysis process in Step 1, the skill terms identified in the transcripts and journal memoing of 13 interviews provided data for comparing and validating skill terms collected from the job postings. The results of the Step

2 approach validated some skills identified as required for new entry-level professionals. As professionals currently managing entry-level employees, study participants provided additional terms that were not previously identified. Supply chain knowledge (T skill) and cross-functional awareness (CF skill) were two skills that managers considered growing in importance due to the fashion industry's rapidly changing and fast-paced environment.

As a result of the grounded theory approach of cyclical and comparative analysis of data, the originally proposed T-shaped person framework (Figure 3) was first modified to align with the empirical data (Figure 9). The additional analysis led to the third revision of the framework to better represent the current and future industry skill needs of the entry-level fashion professional from the first-hand perspective of managers and recruiting professionals (Figure 10).

Contributions and Implications

Although the term ‘cross-functional skills’ is commonly used across many disciplines, including fashion, this study discovered a lack of definition for this term. Without an established definition of this commonly used term for skills required for employees to effectively adapt and collaborate across functions and within teams, the researcher encountered an obstacle in clearly identifying and investigating fashion industry skill needs. Therefore, this study proposes a clear definition of the term ‘cross-functional skills’ as those skills outside of one’s specific job function (domain) required for fashion professionals to be effective in their roles and meet organizational objectives (Leiby & Ha-Brookshire, 2020).

The establishment of this definition contributes to future studies by addressing the current ambiguous use of 'cross-functional skills' and providing researchers with an evidence-based term for future studies of fashion industry skill needs.

The fashion industry is evolving faster than ever before, resulting in changing skill sets needs for the industry's workforce. The proposed definition of CF skills enabled the researcher to investigate what skills are required now and in the future for fashion professionals to adapt to the evolving fashion industry and to be meet job expectations. Through content analysis of existing recruitment literature and fashion managers' interviews, current and future T skills and CF skills were identified as necessary for new fashion professionals to meet industry skill needs. Applying the most important skills identified through data analysis to a theoretical framework, the study proposes the T-shaped person skills model for the fashion professional (Leiby & Zhao, 2020).

This theoretical framework outlines those skills the industry requires within one's specific disciplinary domain (T skills) and those skills outside one's specific disciplinary domain (CF skills) required for entry-level fashion professionals to effectively collaborate and achieve team goals. The contribution of the T-shaped person framework provides a new theoretical model for future application to fashion industry skill studies and a clear understanding of fashion industry skill needs for the entry-level professional.

The proposed T-shaped person framework provides a model for fashion industry recruitment, training, and professional development. The breadth of data sources that included 450 job postings, 13 participant interviews, and 13 job

categories contributed to a list of essential CF skills applicable for most new professionals across the supply chain. The establishment of the T-shaped person framework provides a path to consistency across the fashion industry for skills listed as required for job descriptions and open position recruiting. The framework is founded on current required skills and those becoming increasingly essential to meet future industry skill needs. The forward-thinking characteristic of the framework will provide a model for talent recruiters and hiring fashion managers and those managers across the supply chain involved in employee evaluations, coaching, and job training. Organizational development professionals can use the T-shaped person skills framework to adapt organizational design formats, such as cross-functional team projects, skill training programs, and professional development opportunities for fashion industry employees. Defining the skills needed to meet expectations provide managers and corporate training specialists a basis for identifying and coaching current skill deficiencies and skills needed in the future. The proposed T-shaped person framework is a tool for the industry to use to ensure that organizations and employees have the skills to adapt quickly to the fast-paced fashion environment and prepare for future skill needs.

The study contributes two significant findings to fashion academia and curriculum. The first contribution is the establishment of the definition of CF skills. Having a clear definition of 'cross-functional skills' provides a basis for fashion educators to assess students' preparedness for the fashion industry regarding skills outside the core functional expertise taught in fashion courses.

The synthesis of the Step 1 content analysis and Step 2 empirical data analysis provides another important contribution to higher fashion education. The proposed T-shaped person framework illustrates the technical skill needs on the vertical portion of the model and the cross-functional skill needs on the horizontal portion of the model. The framework goes deeper into CF skill requirements by identifying those CF skills directly related to individual attributes (Figure 10, Labels 1-5) and those necessary to effectively collaborate within a team (Figure 10, Labels 7-11). The inclusion of these two perspectives of CF skills will help educators assess students' skills, learning outcomes, and course curriculum and inform students of industry skill expectations.

Students will be more aware of the necessity to develop independent CF skills, such as problem-solving, attitude, and work ethic, as they learn and engage in educational and social activities and responsibilities. Additionally, higher education students will be aware of those skills required by the industry to collaborate within and across teams. Becoming mindful of their interpersonal skills, striving to collaborate as a team player, and being aware of other's roles and skillsets within group-based projects and settings will allow students to better understand and develop those non-functional skill requirements. The T-shaped person skills framework enables fashion students to have accountability over the job skills they need to develop to be prepared for the fashion industry workforce.

The empirical evidence of skills that new fashion professionals are required, or should have, to be competitive in the job market and meet job and organization expectations provides another significant contribution to fashion

education programs and curriculum development. The breadth of functional jobs used in the study allows for results to be used across all fashion curricula, from general fashion courses to higher level, job-specific courses. In addition to higher education faculty instructors, academic advisors and career counselors also benefit from the T-shaped person framework for the fashion professional. Those in the position to advise students on courses and activities directly associated with building employable skills will have a skills model to help guide individual study plans to ensure students' career preparedness and job market competitiveness.

Limitations and Future Research

The occurrence of the COVID-19 pandemic affected the empirical data collection and results. The study started data collection for the content analysis of Step 1 in December 2019 and concluded pre-pandemic in January 2020. The results from analyzing job postings reflected the past "normal" working conditions and environments, such as in-person communication, collaboration, and working in centralized business locations. The empirical research approach of Step 2 included interviews conducted December 2020 through January 2021, during a time when professionals were primarily working remotely and dependent on electronic communication through email and virtual meeting platforms, such as Zoom and Microsoft Teams. The variance between these two time periods was evident with skills such as Photoshop, Illustrator, PowerPoint, and communication through online presentation becoming more important for the "new normal" of working virtually across the fashion supply chain. As evidenced by the high importance ranking of Microsoft Suite, Adobe Creative Suite, software systems,

and product management systems, the industry managers were clear that technical skills are becoming more technology-driven across all job categories. They also agreed that CF skills are increasingly important in adapting to the fast-paced environment and collaborating across functions and the global supply chain.

Pandemic restrictions also resulted in interviews being conducted via phone and Zoom, without the face-to-face interaction that may have led to better participant rapport and interpretation of non-verbal responses. However, because of the prominence of virtual face-to-face communication since March 2021, the study participants and the researcher were more comfortable with the interview platform than might have been the case before the pandemic. Another limitation of the study is that as a former long-time professional in merchandising within the industry, the term categorization and interview language interpretation may have been indirectly affected by the researcher's previous experiences.

In Step 2, the empirical research design and participant recruitment were focused on term usage required by current fashion industry professionals with two or more years managing new employees. Company attributes such as size, maturity, and business model were not considered when selecting the research sample. Company characteristics can influence how companies recruit, hire, depth and breadth of skill requirements, and other factors that make up the desired workforce which is noted as another limitation to the research methodology.

However, including fashion organization attributes such as size (small, medium, large), retailer type (startup, omnichannel, vertically integrated, mass market, specialty), and business status (private, public, new, mature) are future

research opportunities to further skill investigations. Investigating current industry training and professional development approaches for existing, tenured employees to gain and improve the T-shaped person framework skills would provide another opportunity to contribute findings to the fashion industry.

The next steps could also include exploring interactive learning techniques and curricula that would expose fashion students to cross-functional awareness and organizational behavior expectations across the supply chain to improve students' preparedness for the fashion industry.

Researcher Reflection

This study was born out of personal experience recruiting, hiring, and managing new and entry-level industry professionals. As changes in the industry started accelerating, I observed employees challenged when confronted with the need to adapt quickly to new ways of working. These observations were a deciding factor in my decision to pursue a career as an educator and researcher.

When developing my research plan for identifying the skills that new fashion professionals need to be more flexible and adaptable in the ever-changing industry, it was imperative from the beginning that I maintain an active awareness of my own experiences and assumptions. Using grounded theory methodology allowed me to acknowledge my positionality while increasing the trustworthiness of the study's findings. This iterative method requires a meticulous process of concurrent generation of data and analysis with constant comparison analysis to ensure the trustworthiness and validity of theoretical frameworks' development (Tie, Birks & Francis, 2019). The quality of the study's findings was enhanced

with the use of a two-step research design approach. Member-checking further validated the final skill interpretations and rankings.

The thoroughness of the literature review, methodology, data analyses, and interpretation of the findings resulted in confidently achieving the purpose of this study. The research findings contribute a theoretical skills model and an industry-specific definition to the fashion industry and academia. This is my first step in helping students of higher education better adapt to the ever-changing fashion industry workplace.

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Appendix A

Institutional Review Board Application

IRB #2034282 MU

IRB Application #280704

1. Project Title/Investigators

1. **Project Title**

   If the study is externally funded or internally grant funded, this title should match the title on the grant/contract.

   Cross-functional Skills of the Fashion Industry Professional: T-shaped Fashion Professional Framework

2. ***Key Personnel – List all investigators engaged in the research by clicking on the "Add an Investigator" button.*** *This includes individuals interacting or intervening with subjects, collecting or accessing identifiable data, or consenting subjects. Please note, if individuals are performing services that are typically performed for non-research purposes, and they are only providing a service for this project, they do not need to be listed.*

   Principal Investigator Assurance*: After you hit submit on this application, the PI will be sent an email from the system requesting the completion of the PI Assurance Form. This application will not officially be submitted to the IRB until this step is complete.*

   Primary Contact(s)*: Whoever you would like to be copied on IRB correspondence, including reminders and approvals, please be sure to add them as primary contacts when prompted under the "Add an Investigator" button. There must be at least one primary contact on this application.*

   Fellows and Residents: *Must have a faculty member listed as a co-investigator.*

   Student-Initiated Projects: *Students must list themselves as Principal Investigator and also include an Advisor on the project. After you hit submit on this application, the Advisor will be sent an email from the system requesting the completion of the Advisor Approval Form. This application will not officially be submitted to the IRB until this step is complete.*

   Medical Procedures and/or Treatment Studies: *For activities that require consent to be obtained by a licensed physician outside the scope of research, only a physician, advanced practitioner, or appropriately licensed provider may have the consent role as "authorized to obtain consent". Review our Informed Consent Requirements SOP for additional information.*

   Expedited and Full Board Studies*: Please be sure the Principal Investigator has uploaded their Curriculum Vitae (CV) or resume to their personal document storage in eCompliance. When the PI logs into eCompliance, this will be uploaded under the "Prerequisites" column.*

3. Contact

Principal investigator

Leiby, Nicolette Renee

Job title	GRAD TEACHING AST
Department	Textile and Apparel Mgmt
Division	Human Environmental Sciences
Business unit	University of MO-Columbia

Primary contact

Leiby, Nicolette Renee

Job title	GRAD TEACHING AST
Department	Textile and Apparel Mgmt
Division	Human Environmental Sciences
Business unit	University of MO-Columbia

4. **VA Research**

    1. Is the research going to be conducted by investigators serving on VA compensated, VA without compensation, or Intergovernmental Personnel Act appointments? No

2. Exempt Project Information

1. **CATEGORY 2:**

   Research that only includes interactions involving <u>educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) IF at least ONE of the following criteria is met:</u>

2. The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects; OR

   Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

4. Exempt Project Information

1. Provide a description of your project.

   This research plan is Step 2 of a two-fold research design aimed at defining what skills are needed for fashion professionals to be better prepared for the

fashion industry's evolving worker skill needs. Step 1 was a content analysis and method, date collection, results and discussion of results are detailed in Appendix A.

This research plan applied to Step 2 of the study. The research plan aims to validate or contradict what skills make up the proposed theoretical T-shaped person framework (from Step 1 of the study) for fashion professionals to effectively collaborate with individuals and/or teams to achieve team(s) goals. This will be accomplished through interviewing current fashion professional recruiters or managers. Specifically, the data will be analyzed to seek:
(a) what skills within one's specific disciplinary domain are requested by industry managers when recruiting fashion professionals, and
(b) what skills outside of one's specific disciplinary domain are requested by industry managers when recruiting fashion professionals.

2. Describe what subjects will be asked to do.
    1. In-depth, semi-structured interview protocol will be used. Subjects will be introduced to the topic of the research through semi-structured questions related to the topic. Follow up and probing questions will be used to allow for discovery of new, different, or conflicting themes. Subjects will verbally answer questions and provide any narrative content related to their experience and knowledge. The investigator will ask the questions and record the interview sessions. Transcripts of recorded interviews will be reviewed, and themes identified through data analysis. Themes will be coded according the GT method of a three (or more) step process of categorization and classification.
    2. Interviews are planned to be under 60 minutes with an optimal length of 45-60 minutes.
3. Are you proposing to create a database and/or biorepository for research uses? **No**
4. Explain how your project fits into the exempt category(ies) you selected above.

    The project involves interview procedures to include virtual recorded one-on-one interviews and recorded audio interviews via telephone. Participant's responses will not place the subject at risk for criminal or civil liability, nor will they damage the financial, reputation, or employability of the subject.
5. Recruitment
    1. Describe your recruitment process.
        1. Recruitment will be done through the investigator's professional network via LinkedIn. The professionals' LinkedIn profiles will be reviewed for qualifications and those currently employed with managerial experience will be contacted via LinkedIn messaging and/or email provided in the professionals LinkedIn profile. Consideration will be taken for those fashion industry professionals outside the investigator's LinkedIn network that are referred by professionals within the investigator's network.
        2. 2. Fashion professionals will be contacted via LinkedIn messaging and/or email. An initial email message will be sent introducing the research project and asking the professional if they would be interested in participating. If interested, a follow up

email will be sent with additional information about the research, the research consent form, and the ability to select an interview date and time. Once the participant has agreed to participant, expresses understanding of the consent form and a date and time have been set, the investigator will send an invite for either a Zoom meeting or a telephone meeting to the participant. This recruitment process will occur November 23, 2020 through December 1, 2020, or until 20 or more participants have been confirmed.

2. Select from the following recruitment avenues you intend to use:

1.Social Media

Permission to conduct the study.

I attest that I already have permission to conduct the study, or am still needing permission, but permission will be secured prior to subject recruitment.

Describe the subject population.

Participant group will be 20 fashion industry professionals with managerial experience. Sample may exceed 20 but will not be less than 20. Recruitment will be done through the investigator's professional network via LinkedIn. The fashion professionals' LinkedIn profiles will be reviewed for qualifications and those currently employed with managerial experience will be contacted via LinkedIn messaging and/or email provided in the professionals LinkedIn profile.

. MU Student-Athletes

Are participants asked to answer questions and/or provide information that may be considered embarrassing, sensitive, or offensive? **No**

Describe any potential risks for subjects associated with the research. The study must not involve more than minimal risk to be exempt.

There are no foreseeable risks to the subjects.

Do you plan to recruit non-English speaking subjects? **No**

Will you be processing (i.e. using, accessing, collecting, recording, storing, or transmitting) any personal data about individuals physically located in the European Union, or be involved with any transfer of personal information from the EU to an non-EU country? **No**

Are there any conflicts of interest with this study? **No**

Is this a collaborative research project with multiple sites involved in conducting the study?

No

Is the research funded/supported? **No**

Are you offering subject compensation, including monetary payments or extra/course credit? **No**

Are you proposing to utilize information or biospecimens from an approved/existing research database and/or biorepository? **No**

Will you record identifiable information at any time during the course of the research? **No**

Answer the following questions. If you mark yes to any of them, you will need to confirm additional requirements will be met by checking the box(es) that will populate or answer questions. You will be attesting these requirements will be met when asked to check a box.

. Will there be a subject interaction? **Yes**

Interaction includes communication or interpersonal contact between investigator and subject.

A. You will inform the subject and/or their legal guardian of the following utilizing a written or oral script: 1) a statement that the activity involves research, 2) a description of what they will be doing, 3) a statement that participation is voluntary, and 4) inform subjects of your name and contact information.
B. Describe the protections in place to protect privacy interests of participants.

The personal and professional information of all participants, and the companies that employ them, will be coded as 'Participant 1', 'Participant 2', etc. and 'Company A', 'Company B', etc. Records containing original and coded data collection will be stored electronically, on the investigator's computer hard drive. Computer files will be protected with a password and the computer is in a locked office.

Will the study involve accessing identifiable student records? **No**

Will the study release participant audio, video, or photographs outside of the research team? **No**

Will there be an in-person subject interaction? **No**

Appendix B

Email Recruitment Message

As a fellow fashion industry professional, I am reaching out to you with an opportunity to take part in my thesis study. As you may know, I am a master's student at the University of Missouri in Textile and Apparel Management. The purpose of my thesis study is to identify the technical and cross-functional skills necessary for new fashion professionals to effectively adapt and collaborate in the ever-changing fashion industry workplace. The study will contribute to future academic curriculum development and potentially influence professional and personal development programs and training for professionals in the fashion industry.

As a fashion leader with experience recruiting, managing and developing professionals, your insights are essential to validating real-world skill needs. I would be honored to have you participate in this study.

The study will include a one hour, one-on-one interview, to be conducted via a virtual meeting platform (i.e., Zoom), or telephone. During this interview, we will discuss the study and its purpose, and you will be asked to share your experience, insights, and recommendations based on your area of expertise and manager status.

Given the increasing complexities of technology, globalization, and consumer behaviors impacting the industry, I hope you will be interested in taking a part in ensuring new fashion professionals are better prepared to contribute to fashion workplaces when they enter the workforce.

Appendix C

Verbal Research Consent Script

NAME(S) OF RESEARCHER(S): NICOLETTE LEIBY

STUDY TITLE: CROSS-FUNCTIONAL SKILLS OF THE FASHION INDUSTRY PROFESSIONAL: T-SHAPED FASHION PROFESSIONAL FRAMEWORK

You are being asked to volunteer to participate in a research project. Participation is voluntary.

As you know, I am a graduate student from the University of Missouri, in the Textile and Apparel Management Department. I am conducting a study on the technical and cross-functional skills that new employees need to have to meet the Fashion industry skill needs, and I would like to ask you some questions about that. I would like to record our Zoom conversation so that I can get your words accurately. If at any time during our talk you feel uncomfortable answering a question, please let me know, and you will not be required to answer it. Or, if you want to answer a question but do not want it recorded, please let me know and I will pause the Zoom recording option.

If at any time you want to withdraw from this study, please tell me and I will delete the Zoom recording.

Now I would like to ask you if you agree to participate in this study, and to talk to me about your experience and thoughts concerning skill preparedness for new fashion employees. Do you agree to participate, and to allow me to record our conversation? You will be taken out of the study if you do not want to participate.

Please contact me by emailing nrlm7d@mail.missouri.edu, or by calling 913-708-4768, if you have questions about the research. If you want to talk privately about your rights or any issues related to your participation in this study, you can contact University of Missouri Research Participant Advocacy by calling 888-280-5002 (a free call) or emailing MUResearchRPA@missouri.edu.

Appendix D

Research Questions

1. What skills within one's specific disciplinary domain, also known as technical skills, are necessary to perform and adapt in the fashion industry?
2. What skills outside of one's specific disciplinary domain, also known as cross-functional skills, are necessary to perform and adapt in the fashion industry?

Initial Questions: Fashion industry and participant's role	1. Tell me about your experience in the fashion industry. How is the industry different today than when you first became a fashion professional?
	2. What is your role in the company, and how has that role changed over time?
	3. What skills do you feel enable you to perform your job? What skills contributed to achieving your current position?
Intermediate Questions: Managing direct reports	1. Tell me about your experience managing other fashion professionals.
RQ1: Technical skills	1. Describe the technical skills that you feel a fashion professional must have in order to meet current job expectations and organizational goals? 2. What other technical skills must a person have to meet the future job expectations?
RQ2: Cross-functional skills	1. Describe the soft skills/CF skills that you feel a fashion professional must have in order to meet current job expectations and organizational goals? 2. What other CF skills must a person have to meet the future job expectations? Probe further.
	3. *Pilot Question: Which of these skills is the most important? Could you rate the skills in the order of importance from the skills you mentioned earlier? (Researcher will recap skills previously mentioned).* 3. Revised: Which of these skills are the most important? Probe further.
Ending Questions: Fashion professionals' workforce preparedness	1. Share your thoughts on how prepared fashion professionals are when entering the workforce. What skills do they possess, in your opinion? What skills do they not possess, in your opinion?
	2. Share your thoughts on how future fashion professionals acquire the skills to be prepared for the workforce.
	3. What other thoughts would you like to share?

Appendix E

Skills Rankings from Job Postings on Indeed.com, BoF.com and Style Careers.com

Cross-functional Skills Ranked for All Postings

Table 6.

Rank of Cross-functional Skills for 450 Job Postings

Cross-functional Skill	Percentage of all 450 Job Postings
Communication	73%
Organization	42%
Analytical	35%
Attention to Detail	32%
Multi-tasking	31%
Team Partnership	29%
Thrive in a Fast-paced Environment	28%
Prioritization	23%
Team Player	19%
Time-Management	19%
Attitude	17%
Eye for Product/Trend	17%
Interpersonal Skills	17%
Problem-solving	17%
Collaborative	16%
Adaptability	15%
Customer Focus	15%
Drive for Results	14%
Leadership Skills	14%
Work Independently	14%
Creative Thinking	13%
Ability to Influence	12%
Process-driven	12%
Self-motivated	12%
Strategic Thinking	11%
Flexibility	10%
Decision Making	9%
Eager to Learn	9%
Goal Driven	8%
Initiative	8%
Talent Development/Training	8%
Project Management	8%
Team Building	8%
Data Driven	7%
Entrepreneurial	7%
Pro-active	9%
Self-starter	9%
Work Ethic	9%

Cross-functional Skill	Percentage of all 450 Job Postings
Follow Through/Up	5%
Open to Change	5%
Sense of Urgency	5%
Solution Driven	5%
Accountability	4%
Critical Thinking	4%
Professionalism	4%

Note: The number cross-functional skills were calculated for each CF skill listed in the job postings. The percentage of all 450 job postings are a result of total quantity of skill terms mentioned, inclusive across all job categories.

Technical Skills Ranked for All Postings

Table 7.

Technical Skill	Percentage of all 450 Job Postings
MS Office Suite	61%
Data Management Systems	26%
Adobe Creative Suite	20%
Fashion/Tech Design	12%
Digital Analytics/Content Management	12%
Retail Math/Metrics	9%
Merchandise Planning	8%
Fashion Design Software	5%
Data Analytics	2%
Mac Operating Systems	2%

Note: The number of technical skills were calculated for each technical skill listed in the job postings. The percentage of all 450 job postings are a result of total quantity of skill terms mentioned, inclusive across all job categories.

Appendix F

Skills Rankings from Fashion Industry Manager Interviews

Cross-functional Skills Ranked for Industry Interview Mentions

Table 8

Rank of Cross-functional Skills Mentioned by Industry Managers

Cross-functional Skill	Percentage of Industry Term Identification
Communication	100%
Interpersonal	77%
Relationship Building	69%
Eager to Learn	54%
Work Ethic	54%
Analytical	46%
Problem-solving	46%
Team Player	46%
Collaborative	38%
Consumer Focus	38%
Creative	38%
Cross-functional Awareness	38%
Time Management	38%
Curious	31%
Goal Driven	31%
Initiative	31%
Resourceful	31%
Self-motivated	31%
Strategic Thinking	31%
Empathy	23%
Thrive in Fast-paced Environment	23%
Multi-task	23%
Open-minded	23%
Prioritization	23%
Attention to Detail	15%
Knowledge of Business Landscape	15%
Conflict Management	15%
Flexibility	15%
Leadership	15%
Organization	15%
Risk-taking	15%
Self-starter	15%
Adaptability	8%
Dealing with Ambiguity	8%
Competitive	8%
Cross-functional skills	8%
Decision-making	8%
Entrepreneurial	8%

Cross-functional Skill	Percentage of Industry Term Identification
Professionalism	8%
Project Management	8%
Reputation	8%
Self-advocate	8%
Eye for Product	8%

Note: The number of cross-functional skills were calculated for each CF skill mentioned across the interview participants. The percentages are a result of total number of participants that mentioned each skill term, inclusive across all job categories. Number of participants by percentage are: 100% = 13, 85% = 11, 77% = 10, 69% = 9, 54% = 7, 46% = 6, 38% = 5, 31% = 4, 23% = 3, 15% = 2, 8% = 1.

Table 9

Rank of Technical Skills Mentioned by Industry Manager

Technical Skill	Percentage of Industry Term Identification
MS Office Suite	85%
Supply Chain Knowledge	54%
Adobe Creative Suite	31%
Retail Math	31%
Fashion/Technical Design	31%
Product Management Systems	23%
Sustainability	15%
Design Software	15%
Generalist	8%
Shopify	8%
Digital Analytics	8%

Note: The number of technical skills were calculated for each T skill mentioned across the interview participants. The percentages are a result of total number of participants that mentioned each skill term, inclusive across all job categories. Number of participants by percentage are: 100% = 13, 85% = 11, 77% = 10, 69% = 9, 54% = 7, 46% = 6, 38% = 5, 31% = 4, 23% = 3, 15% = 2, 8% = 1.

Appendix G

Step 2 Member-check Email Communication

On Tue, Feb 23, 2021 at 1:44 PM Leiby, Nicolette <nrlm7d@mail.missouri.edu> wrote:

Hello!

I hope you have survived the latest Polar Vortex! I'm sure looking forward to thawing out here in Missouri!

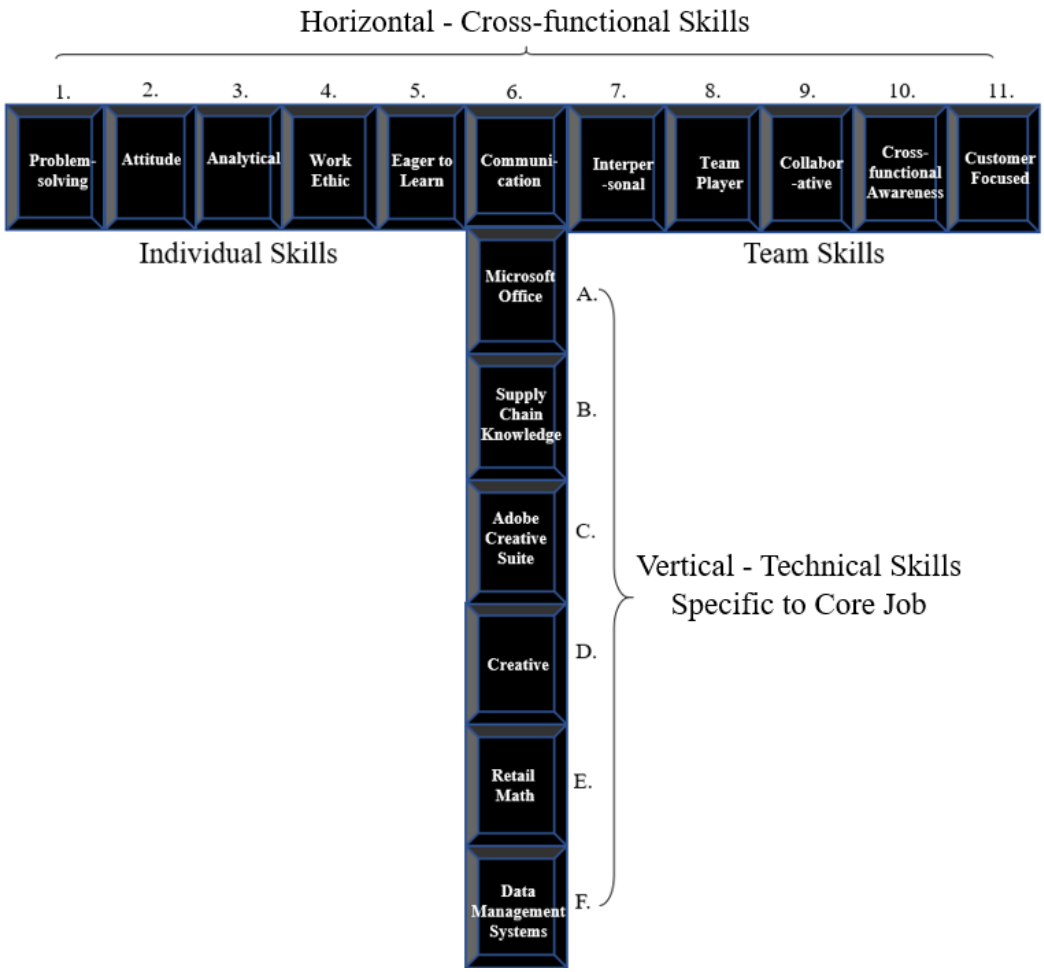
As I finish up my data analysis and results summary, I wanted to get your feedback on the skills framework I am proposing based on your insights. I am proposing the T-shaped person skills framework for the entry-level fashion professional (located below). The skills identified for the final framework resulted from analyzing 450 job postings across 13 job categories, as well as manager interviews across 9 job categories. The terms collected were compared and ranked and the cross-functional skills ranking the highest in importance are listed in the horizontal portion of the T-shape framework. Those technical skills ranked the highest during the comparison make up the vertical or 'I'; portion of the T-shape.

The highest-ranking skill was communication and is located at the intersection of the shape as important for within one's job expertise and in collaborating across teams and organizations. The skills on the left side of the horizontal line indicate those individual skills (like interpersonal skills) that are important to meeting job expectations. The skills on the right side of the horizontal line indicate those skills required to effectively collaborate within teams and across the supply chain (or organization).

As the vertical line progresses down, the skills become more specific to the job function. For example, data management systems (PLM) and technical design skills (such as garment construction and sketching) are listed in the bottom box for technical design job functions.

To validate that your comments were accurately interpreted as to the importance of specific skills for entry-level employees, please provide your feedback on the proposed T-shaped person framework. Your comments specific to the horizontal line of the figure will be especially helpful in ensuring that I have captured the importance of soft skills you feel are necessary for job market preparedness and meeting job expectations.

I would appreciate receiving any feedback by next Friday, 3/5, and thank you in advance for your continued support of this research study.



Best regards!
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