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Anti-Theft Bag for Elena Kihlman Design

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<p>The subject of this work was to design an anti-theft bag in collaboration with Elena Kihlman Design. The goal with this thesis was to collect information about new materials and facts to support the design process. The target market was a 25-55 year old urban working women with the economical capability to afford a handmade bag with a minimum 150€. Therefore the purpose was to find out how to design a functional anti-theft bag using Kihlman's designing style and at the same time, potentially prevent the target market from becoming victims of bag-snatchers.</p> <p>The theoretical part is information about anti-theft materials, history of bags, different types of bags and high risk areas for getting bag-snatched in Rome and how to avoid them. The Author conducted research about anti-theft materials and based on that selected which materials suited the purpose of use. The aim was to have compressive knowledge about the problem that had to be solved. The interviews and background facts were of considerable importance to be able to reach the goal, find a solution and finally design a prototype of a theft-proof bag.</p> <p>The interview with the police officer in the Vatican who deals with thefts became a part of the research. This was to support the assimilated knowledge about bag-snatchings in Rome and what there could be contributed to solve the problem. The gathered material was taken into consideration while designing the anti-theft bag prototype.</p> <p>The conclusion that was reached was to design a functional bag that could be worn in different ways, equipped with lockable zippers, cut proof fabric, RFID proof fabric, SNAGG microchip and made of leather, suitable for everyday use. Important elements to take into account were; the final bag suggestion had to suit the employer concept/style, satisfy the needs of the customer and solve the problem.</p> <p>The final suggestion of the designed bag was presented in the design process chapter; this is where the author reveals the whole design process from sketch to the manufactured bag and the choice of materials that could possibly decrease the possibility of getting bag-snatched in Rome.</p>	
Keywords	Anti-theft bag, functional design, Rome

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<p>Tämän työn aiheena oli suunnitella varkaudenestolaukku yhteistyössä Elena Kihlman Designin kanssa. Opinnäytetyön tavoitteena oli kerätä tietoa uusista materiaaleista ja tosiasioista, jotka tukisivat suunnitteluprosessia. Kohderyhmänä oli työssä käyvät iältään 25-55 vuotiaat kaupunkilaisnaiset, joilla olisi taloudellinen mahdollisuus ostaa yli 150 € maksava käsin tehty käsilaukku. Siksi tarkoituksena oli selvittää, miten voisi suunnitella toiminnallinen varkaudenestolaukku käyttämällä Kihlmanin suunnittelutyylä ja samalla mahdollisesti estää kohderyhmää joutumasta laukkuvarkaiden uhriksi.</p> <p>Teoriaosuus koostuu tiedon hankkimisesta varkaudenestomateriaaleista, laukkujen historiasta, erilaisista laukuista, riskialttiista alueista Roomassa, joissa voi joutua laukkuvarkaiden uhriksi ja miten siltä voi välttyä. Kirjoittaja tutki varkaudenestomateriaaleja ja tutkimustulosten perusteella valitsi käyttötarkoitukseen sopivimmat materiaalit. Tavoitteena oli saada tiivistettyä tietoa ongelmasta, joka piti ratkaista. Haastattelut ja taustatiedot olivat merkityksellisiä tavoitteen saavuttamiseksi, ratkaisun löytämiseksi ja lopuksi varkaudenestolaukun prototyypin suunnittelemiseksi.</p> <p>Osa tutkimustyöstä oli haastatella erästä Vatikaanin poliisia, joka työssään käsittelee kyseisiä varkaustapauksia. Haastattelu tehtiin tukemaan jo sisäistettyä tietoa laukkuvarkauksista Roomassa sekä saamaan tietoa, joka auttaisi ongelman ratkaisussa. Kerättyä tietoa hyödynnettiin varkaudenestolaukun prototyypin suunnittelussa.</p> <p>Lopputuloksena oli suunnitella toiminnallinen, jokapäiväiseen käyttöön tuleva nahasta valmistettu laukku, jota pystyisi käyttämään eri tavoin. Laukku olisi varustettu lukittavilla vetoketuilla ja vuorikankaana käytettäisiin viillonestokangasta, joka estäisi laukun sivujen, pohjan ja olkahihnan viiltämisen. Laukussa käytettäisiin myös RFID-suojakangasta, SNAGG-mikrosirua ja nahkaa, joka soveltuu jokapäiväiseen käyttöön. Tärkeä huomioitava seikka oli, että laukun tulisi sopia Kihlmanin konseptiin/tyyliin ja että se mahdollisimman hyvin tyydyttäisi asiakkaiden tarpeet.</p>	
Avainsanat	Varkaudenestolaukku, toiminnallinen suunnittelu, Rooma

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1 Introduction

The idea behind my thesis was born during my internship at Elena Kihlman Design in Rome, Italy. After a successful internship I wanted to expand my cooperation with Elena Kihlman, the founder and owner of Elena Kihlman Design. A thesis in collaboration with a company abroad, seemed both inspiring and challenging. The opportunity to write in the fashion capital of the world was in my opinion the best way to both gain experience and continue working with this dynamic company.

From many ideas I settled on designing a handbag, as I wanted to concentrate on designing a bag-snatcher safe handbag especially for Rome, my new home away from home. Kihlman and I discussed my ideas regarding the bag and my thoughts on designing a “thesis bag” for her company. Kihlman personally liked my ideas, and we decided that I would write my thesis in cooperation with Elena Kihlman Design.

We agreed that my thesis would be to design one bag of my own design, which would fit in with Elena Kihlmans designing style. We specified that the target market for my bags would be the same as Kihlmans; a working woman living in the city centre, aged 25-55 with the possibility to afford bags in the price range of 120€ upward.

As my internship came to an end I started to conduct research about new materials Kihlman could use in her future productions. Together we decided I would research and study anti-theft materials and write about it in my thesis. Considering the manufacturing of the prototypes of my bag, Kihlman suggested that I should not order anti-theft materials and accessories because of lack of storage space, and the fact that Kihlman herself is doing research on cork and felt fabrics she wants to use in her new production. So the main task is to design a bag, make a prototype and study materials she could use in future projects and productions.

During the process of writing my thesis I will stay in contact with Kihlman on a daily basis so that we can discuss the different stages and the proceedings of my writing. It is essential to have creative and supportive feedback during all phases. This will prevent me from getting side-tracked and stay true to Kihlman's designing style.

The starting point for my thesis and bag is to develop my own design skills and knowledge as a fashion designer. I want to present new solutions in the prevention of becoming a victim of bag-snatchers in Rome. The goal is to offer new solutions and ideas to Kihlman that she could use in her future products.

2 Starting point of my work

2.1 The topic and research questions

In today's society a bag has become a part of our everyday life. It's not only an accessory to depict one's style, but it is an accessory that a woman can't leave home without. It might sound like a bold statement but everyone who is anyone needs some kind of private space to carry belongings with them. When I walk around in the centre of Rome, I see homeless people carrying their "lives" in plastic bags, local people who exit the supermarkets with bags filled with groceries, tourists that arrive in "The eternal city" looking like they are immigrating, the list goes on and on. There are countless ways of carrying something you need around. People use bags every single day. I would go as far as to say that it has become a lifeline.

A few examples of things people carry around a lot are their phone, purse, and Ipad or laptop and everything is supposed to be within easy reach. No one wants to start digging or even worse, dump everything out on the street to find that hair-pin that you knew you had in there somewhere. I am aware that the bag is not a new invention to take the world by storm, but there is always room for improvement. Therefore the question; how can I improve such a well-developed product especially considering Rome as my focus?

Rome, the capital of Italy, is the place where many people claim civilization began. That being said it is very possibly the capital for pickpockets and bag-snatchers. In short, Rome is the most populated city in Italy and the 4th most populous city in the European Union in terms of population within city limits, with up to 4.2 million people living in the metropolitan area. I didn't only take in consideration the huge amount of people already living here. Rome is also a very popular tourist destination with its ancient sites, history and fantastic food; it also attracts the unsavoury characters like pick pockets and bag-snatchers.

With my design the main idea is to combine new solutions in preventing bag-snatching and stay true to Kihlman's design style for functional bags. The target market for my bags are urban working women, aged 25-55 who's basic needs are to carry personal items with them in their everyday life. A bag that is possible to have continued production season after season, but functional for social as well as professional living. A well designed and bag-snatcher safe bag would not only make everyday life easier, it would also give them one less thing to worry about.

As I have already mentioned, the subject of my thesis is to design and form blueprints on how to create a bag-snatcher safe bag, using Rome and Kihlman's design as inspiration and to research anti-theft materials. No bag can ever be 100% bag-snatcher proof, but this is an opportunity for me to design a bag where I can decrease the possibility of casual thefts. For example if Kihlman's customers are provided with cut-proof fabric and lock the bag-snatcher would hopefully avoid them in favour of an easier target.

The subject of my thesis is interesting in the field of bag design because the kind of bag I'm about to design is not available in the area of Kihlman's shop. I haven't found any other store in the region around Via Urbana that is selling thief-proof bags. I also did research on the internet but I couldn't find any company that sold bags that fit my criteria. This means we have very little potential competition and gives me the opportunity to do something new and divergent, to combine both

design and theft-proof materials. I think my ideas would benefit the target market and that gives me the hope that they could get excited about my designer bag.

During the design process I will interview a police officer that works in the Vatican. My hope is that he could verify my own conclusions.

The questions I will be asking are as follows:

- What kind of bags makes people easy targets for bag-snatchers?
- What are the most common ways of becoming a victim of bag-snatchers?
- Which areas are the riskiest places in Rome to fall victim to the bag-snatchers?
- How can people prevent becoming a victim of bag-snatchers?
- Is it possible to avoid/minimize the risk of theft by using theft-preventing materials?
- Can he recommend some extra equipment to accompany the bag?

I will also interview my employer to get her opinion about my bag;

- Does the bag suit her designing style?
- Does she think there will be potential customers who would be interested in buying my bag?
- Is there a need in Rome for anti-theft bags?
- Will my design work in everyday life?
- If she is happy with the result?

By conducting these interviews I hope to gain new insights and supportive feedback for my design process.

The central point of my thesis is to combine design and anti-theft materials in an easy-going way, without letting the functionality suffer. I will also do research on new materials and the high risk areas. The goal, based on these findings is to be able to serve the target markets' need to prevent bag-snatching. I hope my new

bag and materials bring not only new opportunities for Kihlman but also possible new customers.

The fundamental question in my study is to determine the possibility of combining both design and anti-theft materials, so that they become one. These are some questions I need to find answers to;

- What should I take into account in my design process?
- What does my target market need?
- What materials should I use?

Based on these questions I will attempt to come to a conclusion that will help me with my research and therefore also help me with the design of my final bag.

2.2 Aims and analytical procedures

My work and project for Elena Kihlman Design is a functional thesis, and my aim is to gather the material I need to be able to design, on the basis of my collected information, a new bag for my employer.

The goal of my work is to figure out, how to design a bag, where I combine anti-theft materials and Kihlman's designing style all into a functional bag. When I design the collection I will attempt to create something that is fresh and different from the mainstream bags. The main factor that will set it apart is the materials I will use. Not overlooking the requirements and desires of the target market and the style of my employer.

During the designing process one of the most important things I will need to pay attention to is that the bag will fit into Kihlman's style. Kihlman has worked in the designing sector for almost 25 years and she is a very talented and experienced entrepreneur. Therefore, my goal is very ambitious: I want to create something new and interesting, attracting both Kihlman and possible future clients. My agreement with Kihlman is that if she likes my bag, she would be free to make

some modifications, if needed. When the bag is ready for production we agreed that the bag will be sold under her label. I would produce them and she would acquire them from me.

My deeper personal goal is to get experience as a freelance designer by designing my own bags for collaborating companies that are interested in buying my ideas and designs. I will learn how to deal with the manufacturing and research processes and develop skills to become a better designer. Thanks to this thesis, I have the possibility to maintain and create contacts for my future endeavors. It also means that I will get invaluable feedback from my experienced employer, and this will strengthen my collaboration with Kihlman. I believe this opportunity will help me to create my own identity as a designer. My wish is to gain experience to hopefully take my talents abroad.

My thesis research is limited to the following two main parts;

1. Anti-theft material research
2. The bag design

Knowledge needed for the design and material of the bag will be gathered from experiencing daily life in Rome, interviewing my employer and a policeman. Most importantly, self-experience from the use of a prototype bag. I will also do a SWOT analysis (strengths, weaknesses, objectives, threats) about the bag. The interviews will help me to see my bag from a different perspective and will show me how people feel about my ideas. My starting point is researching and gathering the materials I am going to use for the bag.

The research will include detail about materials, history of bags and the equipment needed for my final product. I will also take a closer look at the high risk areas where someone is more likely to become a victim of bag-snatchers or pick-pockets.

Through in-depth research about the high risk areas in Rome, and the interview with the police officer, I will have a better idea of what I have to pay attention to during my design process. When designing the bag I have to take the material restrictions into consideration, while still keeping in mind that the bag will be sold under a designer label. Once I have considered all the technical aspects of the bag, I will concentrate on the shape. During this process I will use my knowledge and skills to design a bag that will fit in with Kihlman's style. Feedback from Kihlman will be helpful when selecting the final design before manufacturing.

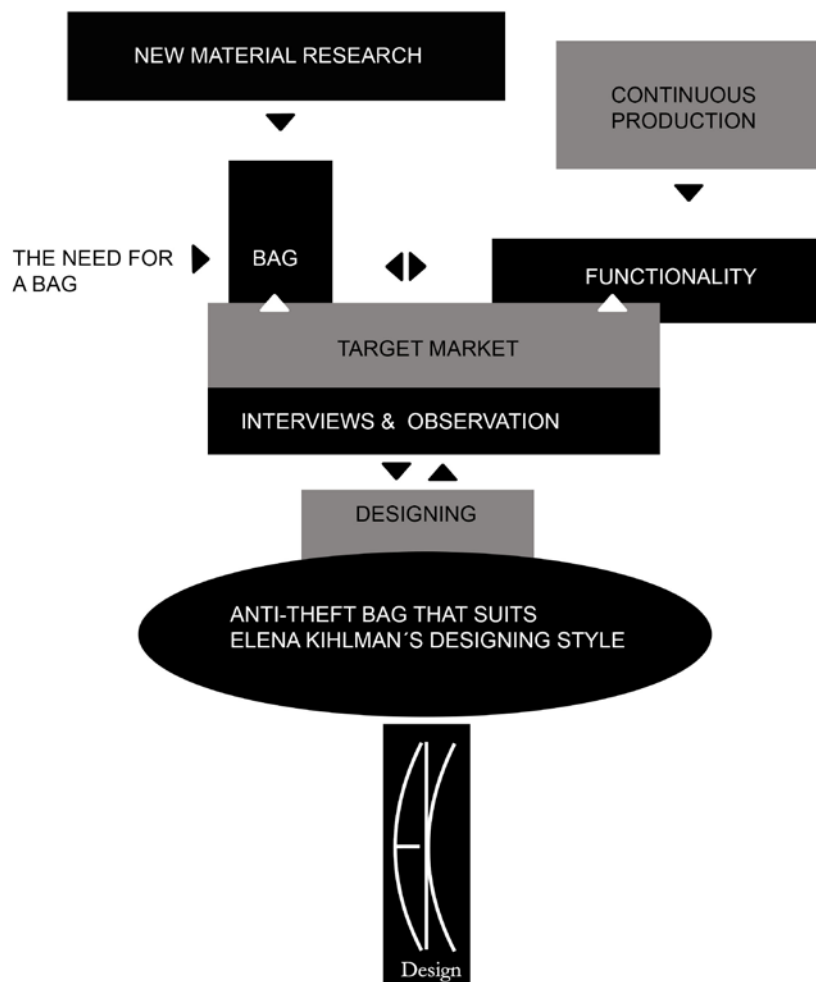


Figure 1. The anti-theft design process framework.

The analytical procedure (Figure 1) will clarify my working process. In this procedure my work starts with collecting information, interviews with Kihlman and the police officer. This will all be taken into consideration for the final design. The

result is intended to decrease the possibility of becoming a bag-snatcher victim and at the same time be considered as a designer bag.

When all the data is collected I can start to design the prototype of a bag-snatcher safe bag for Rome. In the design section I will elaborate about the creative process. Because of the fact that I'm designing this bag for Elena Kihlman Design, the interviews, the feedback received and working hours together with Kihlman herself will play an essential part.

3 Collaborating company- Elena Kihlman Design

3.1 Biography, concept and showroom

Elena Kihlman was born in Saint Petersburg, Russia. She moved to Finland to study at the University of Industrial Arts Helsinki (UIAH) and after her graduation she continued to study a Master of Arts (MA) and specialized in Fashion and Textile design. In 1998 Kihlman arrived in Italy as an exchange student for the first time, to study with a grant at Istituto Europeo di Design in Milan. Alongside her studies she worked as a stylist to gain some knowledge on working life in Italy. After her graduation in Finland, Kihlman founded a design and manufacturing studio in the centre of Helsinki, where she designed leather wear and handbags for several Finnish companies. (Elena Kihlman Biography.)



Picture 1. Elena Kihlman of Elena Kihlman Design. (Elena Kihlman's personal pictures. 2015).

Despite having her own studio in Finland, Kihlman decided in 2005 to move to Rome. After leaving her life behind in Finland she started her own company in Rome where she could mainly produce interior design and fashion accessories. Her current location and working studio was founded in 2009 in the heart of Monti, near the neighbourhood of Colosseum. Nowadays Kihlman's showroom does not only house her own creations, but it also boasts some intriguing designs by the best Northern European designers. (Elena Kihlman Showroom.)



Picture 2. Elena Kihlman Design shop. (Elena Kihlman's personal pictures. 2015).

Kihlman's products are the result of years of study of ancient fabrics and techniques. This gives the feel of a new interior atmosphere, where the design is combined with traditional craftsmanship. The Russian, Northern and Italian cultural influences are clearly seen and this enriches her design work. She manages to blend old elements with new innovative aspects and with her interior design pieces she creates a modern as well as the original idea of a home. For her the atmosphere, harmony and the sense of well-being are important elements in addition to the functionality of her products. Each design has developed from a personal story inspired by her background, a cheery mood, the memory of a particular landscape or a touching feeling. Through this unique way of expression, she reevaluates the reality and underlines her individuality. Functionality and artistic originality are combined in every single detail, without any commercial intent. For

this reason her work requires a large amount of research into different materials and particular techniques. (Elena Kihlman Concept.)



Picture 3. Elena Kihlman herself with one of her creations. (Elena Kihlman's personal pictures. 2015).

Kihlman uses high quality and environmentally friendly materials such as silk and linen as a base for all of her creations. The fabric decorations are realized by using Nuno felting technique. Nuno felting technique means that the patterns are felted on the fabric surface. The materials used while felting are a combination of merino wool and silk fibres. Some designs are finished with details done by hand-painting, or using hand- made ceramic and cork. Wall panels and rugs are made of industrial felt coupled with cork. In the products the old Finnish traditional weaving technique is refined and the materials are combined in an interesting way. The products made of cork-felt in 2013 are developed from a new fabric, cork coupled with felt. Elena is currently collaborating with two companies based in Tuscany, which are creating an extremely flexible, durable, environmentally friendly and recyclable cork- felt fabric. She is continuously working on new projects with these companies. (Elena Kihlman Concept.)

Behind her success lays dedication, commitment to quality and the search for creative solutions in products that interact with the consumer and satisfy their

needs. For this reason, Kihlman pays strict attention to detail and she seeks to personally tend to every creation. All products are entirely produced in Italy: each creation is handmade and sewn in the Elena Kihlman studio starting from the designer's sketch. The flexibility and the ability to meet individual needs are the main characteristics of Elena Kihlman Design. (Elena Kihlman Concept.)

3.2 Competitive companies and target market

We live in a world of niches, and Kihlman has found her gap in the market. Currently there is no other company in Rome that is manufacturing Nordic designed products with both Nordic and Italian materials. Thus, other companies and designers that sell bags in Rome are not direct competition for Elena Kihlman Design as all her products are unique. As a conclusion there are no competitive companies in Rome.

Kihlman does not specialize in one particular product. She has a very wide scope to look at when it comes to her target market. Because I design a bag for Kihlman, this is the market that I will concentrate on. When I asked Kihlman what the potential target market for my design would be, this is what she had to say: "The ideal buyer would be a 25-55 year old urban working woman with the possibility to afford bags in the price range of 120€ for fabric bags and 250€ upward for bags made of leather." Kihlman also said that 90% of her customers usually have a higher education which gives them the buying power for her designs. Tourists from all over the world visit Rome. According to Kihlman, her bags are mainly sold to tourists. When looking at the broad spectrum her target market can be neatly shown in this chart.

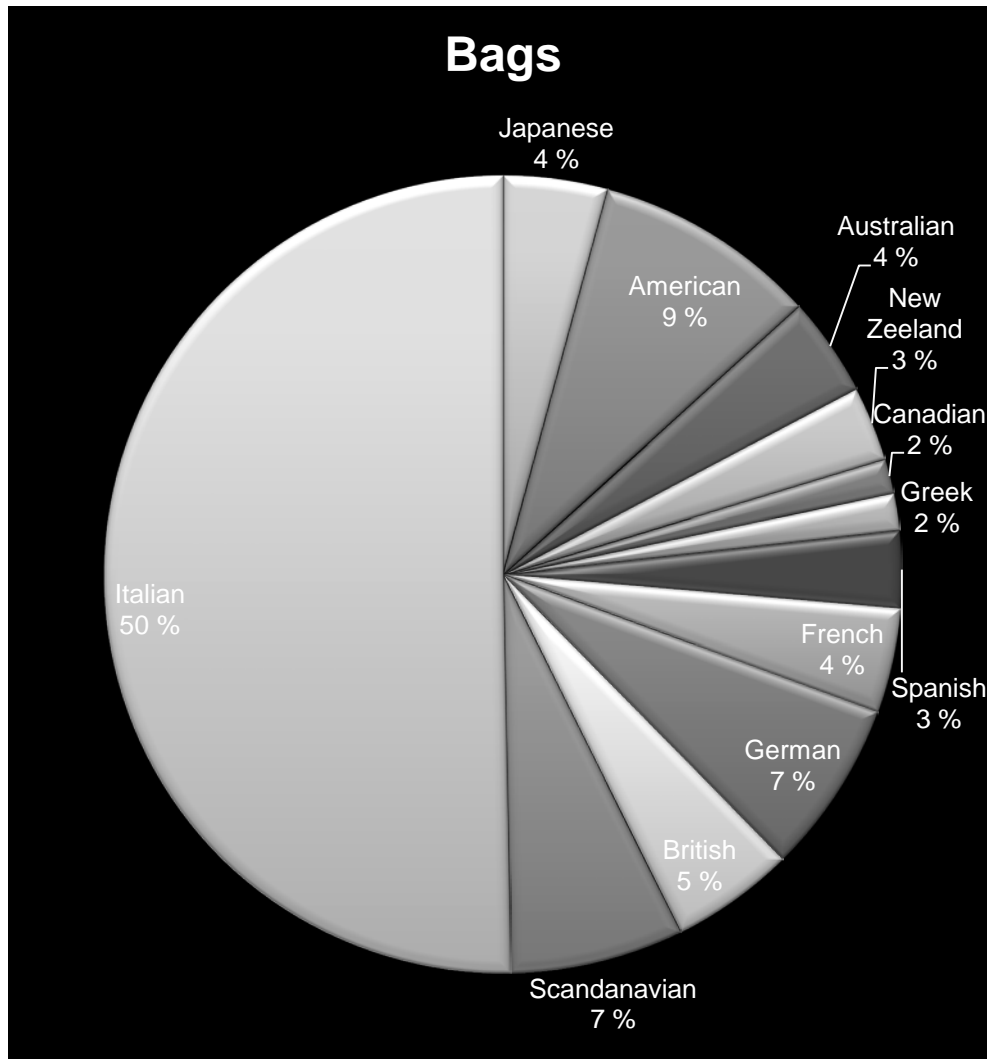


Figure 2. Target market chart for bags.

When looking at the type of person that buys Kihlman's bags, they tend to be someone who appreciates a well thought through design with handmade quality and ageless style.

4 Information acquisition and methods

4.1 An introduction to the history of bags

In the summer 2014, on a trip to Amsterdam, Netherlands, I amongst many other places, visited the Museum of bags and purses. I learned many interesting facts

among which were that the history of bags and purses started almost at the same time as the earliest stages of civilization. The oldest known purse was worn by a man, Ötzi the Iceman, over 5000 years ago. Both men and women used them daily to carry money and personal items because clothes were not equipped with pockets. From studying old paintings, tapestries and prints researchers know what they looked like and there are a few ancient bags and purses preserved in a few museums in the world. Depending on the purpose of use, both bags and purses were designed in a different way. The bags/purses could be equipped with clasps, leather pouches or long/short drawstrings. The exception proves the rule; some models of shoulder bags were worn by attaching them to a belt or girdle. At the end of the 16th century the first pockets were introduced and determined a slow decrease until men's bags disappeared almost completely during the 17th century. Men continued to use purses but the pockets were commonly placed in the trousers. From then onward, bags and purses has almost been exclusively combined as an accessory for women. (Tassenmuseum, 2015.)

To wear a purse on a chatelaine (utensils could be attached to chain with hooks) became common from the 16th century onwards. The chatelaines were made of expensive metals so the bags became a status symbol. As centuries passed, both accessories and the design of the chatelaine developed and in the beginning of the 20th century the handbag had replaced the chatelaine. Considering the anti-theft theme of my thesis it is interesting that in the 17th and 18th century and most of the 19th century, women's clothes were so voluminous that it made it possible to hide one or more bags under the skirt. That means that for either security or aesthetic reasons people thought about how and where to keep their bags safe. (Tassenmuseum, 2015.)

Ancient Roman and Greek culture inspired things like to-gas, ceramics etc and became fashionable and trendy in the 18th century when the Roman city of Pompeii was discovered. The name of that movement was Classicism. Not only the bags, but also the fashion was affected by the inspiration. (Tassenmuseum, 2015.)

Dresses became straighter and waistlines were moved upwards, among many changes. The straight dresses meant the end of keeping bags underneath the skirt and the beginning of the reticule, the first modern version of a handbag that was carried on a chord or chain. Reticules were trendy and fashionable up until the first few decades of the 19th century. During this time women often made the reticules themselves from all kinds of fabrics. Fine fabrics such as silk and velvet were the most commonly used. (Tassenmuseum, 2015.)

During the Industrial Revolution in the 19th century many new manufacturing and production techniques were invented. Papier-mâché, iron and polished steel were among the newly invented materials used for the manufacturing of bags, which led to a bigger variety of new designs. As people started to travel more, new bags were developed to make the journey more convenient for travelling by boat or railway. The “ancestor” of today’s handbag was the luggage designed for travelling by railway. These bags were designed for various possibilities like shopping, visiting and of course travelling. The first modern set of luxury handbags were created in 1841 by H. J. Cave (London) when an industrialist and confectionery entrepreneur named Samuel Parkinson needed cases and trunks specially designed for his wife’s belongings. They needed it to be practical for different occasions and in varying sizes so that they could withstand the journey. Included in the set of handbags was a clutch and tote, this was one of the bags that caught my eye in the handbag museum in Amsterdam. (Tassenmuseum, 2015.)

In the 20th century, fashion and art movements passed quickly and the handbags developed alongside. The liberation of women became one of the most important factors in the shaping and development of handbags. The practical needs of the handbag had to be enhanced as more women were travelling and started to become more independent and self-sufficient. Bags were designed and developed for a specific purpose/use such as; metal clutches for evenings, sparkling bags, practical leather and plastic daytime bags for the free time and leather document cases for office workers. (Tassenmuseum, 2015.)

Great handbag designers emerged during the 20th century when branding became important. Designers such as Hermès, Louis Vuitton, Gucci and Prada, became famous for their leather ware and exclusive handbags. “For fashion designers such as Chanel, Dior, Yves Saint Laurent, Versace, Donna Karan and Dolce & Gabbana, the handbag became a relevant accessory” (Tassenmuseum, 2015). Comparing the beginning of handbags when the designs could remain unchanged for decades, the designs in the modern day change every season. (Tassenmuseum, 2015.)

4.2 Types of handbags

Handbags and bags can be categorized according to the purpose of use, silhouette and type of handle. Below is written examples of different kind types of bags:

Athletic bag: An athletic bag is often referred to as a soft, spacious bag that is used to carry sporting equipment and apparel.

Backpack: A backpack is a bag worn across the back, possible to wear on one or both shoulders, equipped with double or single handles supported by the wearer’s shoulders.

Baguette: The name of this type of bags comes from the shape. It reminds one of a French loaf of bread. These bags are small from bottom to top, rectangular and long from side to side.

Barrel: Often equipped with shoulder-length straps, the shape is like a closed tube or barrel.

Bowling bag: These bags were originally designed for holding bowling balls and in the 1990’s it became a popular “retro” fashion item among younger women.

Bucket bag: The name comes from its shape which is similar to a bucket, medium to large sized with shoulder straps and a drawstring to close or open the top.

Clutch: The name comes from the fact that you have to clutch it to be able to close it. It is small, rectangular in shape and without a handle. Often considered as an evening bag but is used in the day as well. Jewels and crystals are often used as decorations on clutch bags.

Cosmetic case: As the name indicates, it is a bag designed for holding cosmetics. It is designed with a zip in varying sizes and shapes.

Doctor's bag: The traditional doctor's bag is duffel-shaped leather satchel, designed according to the bags doctors used for making house calls during the Victorian era. They are often flat-bottomed with rounded sides, equipped with two large handles that comes together over the top which makes it easy for carrying. With a collapsible metal frame at the "mouth" which springs open when the handles are separated or tugged. The "mouth" makes it easy to see the extract items and into the bag.

Drawstring: Is a purse that closes with a drawstring at the top and is popular as an evening bag. It is often equipped with wrist- or shoulder length straps.

Duffel bag: Is also called sea bags because they were often used by sailors. The fabrics for these bags were originally produced in Duffel, Belgium and from there the name of the bag originated. It is often a large bag, most commonly used for travelling and sport.

Envelope bag: A square, flat or rectangular shaped bag with a triangle-shaped designed top flap that folds like an envelope.

Feed bag: A bag that is made for feeding animals, it covers the muzzle and is fastened at the top of the head.

Fold over clutch: The handle can be tucked or folded and the clutch can be designed both with and without a handle.

Half-moon: The shape of the bag is a half-moon.

Hobo bag: A large to medium sized crescent-shaped shoulder bag, equipped with a zipper at the top (main compartment closure).

Kiondo: This is a hand-woven bag and is indigenous to Kenya. The material used in these bags is sisal with leather trimmings.

Laptop bag: Designed for carrying a laptop computer

Lighted: These kind of bags with a lighting system were already designed in the 1950's but were first successfully brought to the market in 2011.

Messenger bag: The inspiration for these bags came from bags worn by urban messengers who delivered business mail (that's why the bags are often made of high quality, water-resistant materials). It is a roomy bag equipped with a long

strap that lies across the body, winds around the chest which makes the bag rest on the lower back.

Minaudière: Small sized rectangular evening bag, commonly hard-bodied with leather or fabric cover and decorated with pieces of metal.

Muff: This is a bag designed especially for winter. The material is often real-or faux fur, wool or velvet, slip openings for the hands and equipped with zipper compartments.

Pocketbook: A rectangular shaped small purse.

Pouch: Pockets, teabags, money bags, sporrans, etc are small bags with another name called pouches.

Saddle purse: Is a large (also pair of bags) horse saddle shaped. It is popular to use equestrian motifs and hardware to highlight (emphasize) the design.

Satchel: A satchel is a soft-sided case often made of leather, it has a wide and flat bottom and double handles. The size varies from small too large.

Shoulder bag: A bag of any size or shape that is equipped with a shoulder strap.

Sling bag: Is similar to a messenger bag but reduced in size and equipped with a long strap.

Tote: A tote is a medium to large sized bag with an open top and two handles/straps. It is commonly used for shopping and therefore it is also known as a "Shopper".

Trapezoid: This bag is shaped as a trapezoid and is often made of stiff materials.

Weekend bag: The name of this bag comes from the purpose of use, it is meant to be able to carry both clothing and personal articles for weekend trips.

Wristlet: Is a bag shaped as a clutch, equipped with leather or bracelet-looking straps that make it possible for using hands free. (Bagbible, 2006-2008.)

4.3 High risk areas in Rome

In general, Rome is a safe place concerning violent crimes, but when it comes to bag-snatchers and pick-pockets there is a rampant problem in Rome, especially in places where there is a concentration of tourists. Unfortunately, these problems exist in any big European city like London, Paris, Madrid or Barcelona. Bag-

snatching and pick-pocketing is stealing and thieves in Rome especially are very crafty.

My goal is that Kihlman's customers will buy my designed bag and won't become the target of these thieves to begin with. Suggested high risk areas in Rome, comes from own experience, what I have read before moving to Rome and what I have heard while living there. Famous attractions in Rome, which are visited by almost all tourists while staying in 'The Eternal City' as well as residents of Rome passing by living their normal lives, are number one on my list for bag-snatchers and pick-pockets.

The big main station Roma Termini (Termini Stazione), the Trevi Fountain (Fontana di Trevi), the Spanish Steps (Piazza di Spagna), Piazza Venezia, the Vatican area, the Coliseum (Il Colosseo), Piazza Navona and the Roman Forum (Foro Romano) are some of these areas. Shopping streets like Via Condotti, Via Nazionale, Via del Corso and Via dei Fori Imperiali is also favourites for bag-snatchers and pick-pockets. When it comes to public transport, the bus 64 (also known among expats in Rome as "The Wallet Express"), tram number 8 and bus H (goes from the Trastevere station through the centre to Termini station) are all high risk places.

A closer look at the high risk places and situations:

- The main train station, Roma Termini: Here the metro line A and B cross, and accommodates thousands of people every day and gets extremely crowded. It is important to keep ones belongings close and secure while using the metro at Termini. Here the thieves camouflage themselves as if they were part of the crowd. They push people so it is almost impossible to notice if you got lifted or only pushed by accident.
- The Trevi Fountain (Fontana di Trevi): There is a legend that says if you throw three coins in to the fountain, you will definitely return to Rome. Un-

fortunately, the thieves benefit from the moment when visitors are distracted while watching the stunning fountain and many tourists leave with less than the three coins, if they don't keep their wits about them. Pop-up vendors sell their souvenirs which is very attractive to tourists while the tourists might be an attractive target for the thieves.

- The Spanish Steps (Piazza di Spagna): Thieves love the tourists that visit the Spanish Steps, this place is similar to the Trevi Fountain. The souvenirs that are sold at the bottom of the stairs distract people and the thieves take advantage of that moment.
- Piazza Venezia, the Roman Forum and Piazza Navona: These places are similar to the Spanish steps and the Trevi Fountain.
- The Vatican area: From my own experience I recommend that people who visit Saint Peter's Square and the Vatican City, pay attention to unofficial guides who offer to do a guided tour of the Vatican. These guides often either try to attract your attention, while an accomplice steals your valuables or they will ask an overpriced amount of money for their services.
- The Coliseum (Il Colosseo): Tourists and thieves from all over the world are attracted to visit the Coliseum, one of the New Seven Wonders of the World, while visiting in Rome. Around the Coliseum and other ancient attractions in Rome, are people costumed as gladiators. These people mainly offer to take a picture with the tourists, which is often not free. Payments range between 5-25€. They might also be thieves and take some valuables from the people who take pictures with them.
- Via Condotti, Via Nazionale, Via del Corso and Via dei Fori Imperiali (shopping streets): In the shopping areas and sidewalks there is a lot of people passing every day and the variety of methods for getting robbed are huge. The most common ways to get pick-pocketed in these areas are:

- Mothers with their children begging for money and usually it is the children who reach out for your bag or wallet.
- Men who shouts “bella, bella” and captures the attention of women while they steal your belongings.
- Smaller gangs (often a pair), will slash a bag or backpack and hand it over to the accomplice (to avoid being caught).
- Beggars often tell a sad story and ask for money (sometimes in exchange for some fake items). Often these people just try to catch your attention while they snatch something from you.

While going around in the centre area of Rome, I would suggest a few things not to do:

- never leave the handbag hanging on the chair while sitting in cafeterias or open space restaurants
- having an open bag on the floor in public transport. In these cases it is safer to have the bag on the ground close to you.
- when taking a photo of oneself or friends, it is always good to not concentrate on the camera too much, otherwise it is difficult to notice a person coming closer behind you.
- not to lose focus while talking to a friend on public transport, then neither one will notice while a thief is lifting any kind of valuables from your bag.

Personally I think that most of these situations are avoidable if the bag is safe and attention is kept on the valuables in the bag. The public transport in Rome, especially bus 64, bus H, tram number 8 and taxis are targets for thieves and tourists and travellers who plan to use the public transport should stay vigilant. To travel with metro in Rome is very convenient because there are only two lines (A and B) and they stop at almost all tourist sites. Usually the metro stops get crowded just before the metro arrives. Small gangs of thieves can approach the platform and split-up, observe the passengers and choose their target. The men usually travel only one stop and during that short trip they often lift a wallet or some other valuables while the crowd of people has either entered or exited the

metro. Sometimes before the metro door closes some thieves grab a bag or wallet and exit just before the doors close.

The suggestions I wrote about above are mainly meant for tourists because it is basic knowledge for a person living in Rome. The main idea with travelling is to relax and to have fun, and almost all crimes when a tourist is a target in Rome are nonviolent and avoidable. That's why it is good to share my knowledge about high risk places in Rome and to design an anti-theft bag especially for this area, because it is better to limit one's vulnerability than to limit your travel or daily life.

5 Interview and material research

5.1 Summary of interview with Officer X

There are around 25 000 new tourists per day visiting both Saint Peter's Square and The Vatican City. Whenever you are dealing with such a large amount of people the opportunistic thieves will follow. That is why I chose to interview a police officer who deals with all kinds of problems including pickpockets and bag-snatchers. Because of safety and privacy reasons the police officer's name will remain anonymous. I will refer to him as Officer X. (Appendix 1.)

According to my interview with Officer X bags without zippers are the easiest targets for bag thieves; it makes it easy to access the inside of a bag because of the big crowds of people. The most common way they gain access is to get the bottom of the bag slashed open with sharp knives or utility knives. The riskiest areas in Rome are the orange metro line A that stops at all the tourist attractions. According to Officer X the best ways to prevent from falling victim to the bag-snatcher are; Keep the shoulder strap under the jacket, money-belts under the shirt/jacket. He also thought that the use of anti-theft materials will decrease the chance of being bag-snatched. When it comes to extra equipment, Officer X suggested incorporating similar chemicals used in money transportation between the lining and outer fabric of the bag. This means when the fabric gets slashed or

broken it would colour. Lastly, making the zipper more difficult to open would make it more secure. (Appendix 1.)

5.2 Chosen materials

High quality aspects are expensive, physical and technological- there are many factors that play an important role while selecting the right material for my anti-theft bag. The information the officer gave me was confirmation why I have to use the RFID protection fabric in the bag pockets to be able to prevent “electronic pickpockets”. To prevent the bag from getting slashed I suggest putting cut resistant fabric between the lining fabric and leather and inside the shoulder strap. As extra equipment I would use lockable zippers, stainless steel snap hooks and a SNAGG microchip. When it comes to the outer fabric, I chose to use leather because Italian leather is world renowned for being good quality. Kihlman does not have leather bags for sale in her shop as of yet. So this is a new avenue for her. The following is a more in-depth look at the proposed anti-theft materials:

- RFID protection fabric

Less EMF Inc. in the USA manufactures the RFID protection fabric that suits my purpose of use. RFID means Radio Frequency Identification. Most credit cards, passports and some licenses have this kind of technology. RFID keeps your identity and personal information personal. Many credit cards, passports and licenses now contain Radio Frequency Identification (RFID) technology. This enables you to simply wave your credit card, passport or license in front of a nearby scanner instead of having to slide the magnetic strip through it. All of your personal, sensitive information is on this chip. Thieves with good technological knowledge can now use hand-held readers to capture your personal information for illegal use. This blocking material prevents your data from getting fraudulently stolen by blocking out most transmissions (blocking radio frequencies between 30MHz-1GHz. This is in the radio frequency used in passports, credit cards and key cards. (Less EMF Inc, 2015, Appendix 2.)

That is why RFID protection embedded into this anti-theft bags pocket is essential. I contacted a company that manufactures RF-shielded fabrics and LessEMF.com made a recommendation of using COBALTEX™. It is a uniquely multi-metalized fabric. An added bonus is, because of the Cobalt alloy top coating, this material offers magnetic shielding in near field conditions. This reduces interference between things that are in a tight space together. The material is light weight and very malleable. (Less EMF Inc, 2015, Appendix 2.)



Picture 4. CobalTex fabric. (CobalTex, 2015.)

- Cut resistant fabric

I contacted several companies that manufacture cut resistant fabrics and in my opinion the PPSS Group based in the UK produces for my purposes the best material Cut-Tex® PRO. The PPSS Group produces and designs high performance body armour and PPE. Cut-Tex® PRO is an ultra-high cut resistant fabric, made from a groundbreaking permutation of ultra-high molecular weight polyethylene (UHMWPE) and other technical fibers weaved by special high-density knitting machines. (Cut-Tex® PRO, 2015, Appendix 3.)



Picture 5. Cut resistant fabric. (Cut-Tex.com, 2015.)

- Lockable zippers

The primary weakness of a bag is the opening. The openings to my bag are either hidden or equipped with lockable zippers. The lockable zipper makes it less desirable and more difficult for a thief, but this is not a 100% guaranty. It is rather a way of slowing down a thief. A locked zipper can often be opened without tools by pulling opposing edges apart where locked zipper sliders meet each other or the end of the zipper. Connecting the slider-ends too closely to the opposing sliders or “the end of the zipper” makes access to the inside increasingly difficult. In saying that, locking the outer ends of a zipper-pull is far less secure than it is locking the inner holes of zipper-pulls, which in turn, however, is even less secure than locking zipper sliders designed for padlocks. (Zen Backpacking, Zen Seeker, 2015.)



Picture 6. Lockable zippers on the prototype. (My own personal pictures, taken by Niuke Photography, 2015.)

- SNAGG RFID Microchip

When you report your bag stolen or even lost, your missing bag can be scanned by dealers or law enforcement. The SNAGG RFID Microchip will then positively identify it as belonging to you. How does this microchip work? A miniscule, unnoticeable RFID chip will be embedded inside the bag. When triggered, the chip transmits an exclusive code that can be traced right to the bag. Once fitted, you simply register on the SNAGG website. Registration is free and you stay registered for life. (Blue Sail Technologies, 2013.)

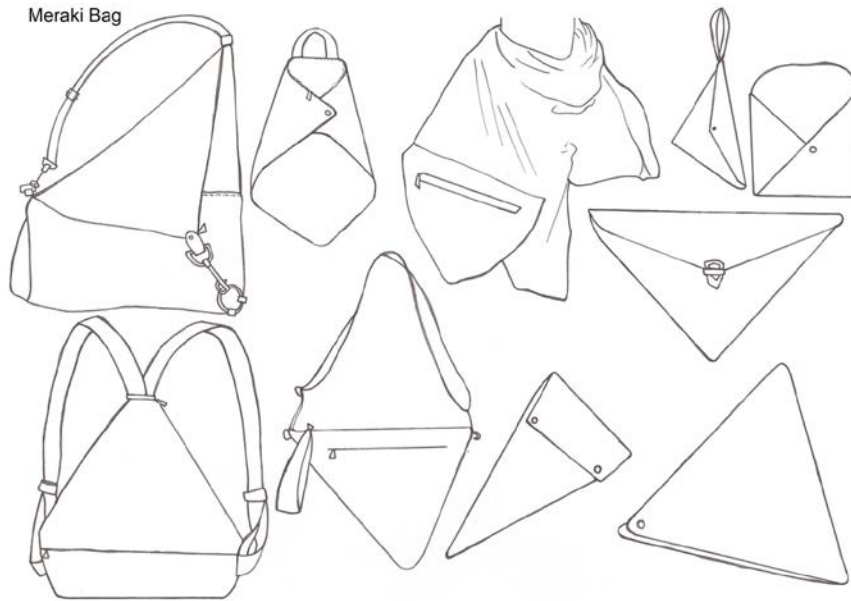


Picture 7. SNAGG product image. (Blue Sail Technologies, 2013.)

6 Design Process

6.1 Bag inspiration

One of Kihlman's bestselling bags is the "Urban Shoulder Bag" which is inspired by Origami art. I used this as a muse. A bag with a triangle shape which would fit into her line of design. I sketched ten different ideas and let Kihlman select which one I should continue working on as a final bag.



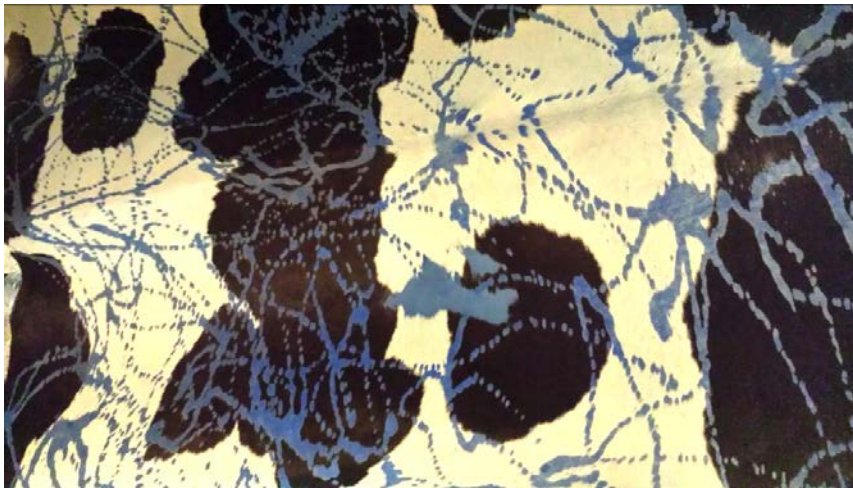
Picture 8. My first bag sketches shown to Kihlman. (My own personal drawings, 2015.)

For Kihlman it is important that the bag is not a one season bag, but instead it should have the possibility to be in a continued production all year around, possibly for years to come. The aspect that could change are the details, materials and colors. The design process will be lengthy as when the first prototype is made we would decide what I should change. What works and what doesn't.

6.2 Starting point for the Meraki bag

I named the bag "Meraki", (Greek) which means to create something with your soul, creativity or love. When I presented the sketch to Kihlman, she selected the Meraki bag as the one I should continue working on. With this bag I had the opportunity to insert all of the anti-theft materials in my final bag proposal. In the front pocket and in the pocket inside the bag I could insert the RFID protection fabric. Cut resistant fabric in the shoulder strap and between the lining and leather and lockable zippers on the back zipper. As I have mentioned before the prototype of my bag won't have all the anti-theft materials, like SNAGG microchip, cut resistant and RFID protection fabric. But it will have the lockable zipper.

The “Meraki” bag consists of three leather pieces, two in the front and one at the back. This gives me the opportunity to make a unique bag each time because I can combine different leather parts and the metal equipment. The option to make every leather bag a unique piece was an idea Kihlman liked. All the leather I have used is bought in Rome in a small leather store Centro Moda Pelli di Tedesco Nicola A (address Via Don Filippo Rinaldi, 14, 00181 Rome). There it is possible to find both small and large unique pieces for an affordable price. I sourced the metal equipment and zippers from Bricopelle (address Viale del Monte Oppio, 16/22, 00184 Rome). Because Kihlman’s studio does not have the equipment needed to manufacture the bags, she suggested that I contact M.A. Pelletteria di Marco Anfuso who manufactures small amounts of leather bags. After a short meeting with Mr. Anfuso we agreed that he would make my Meraki leather bag for me.

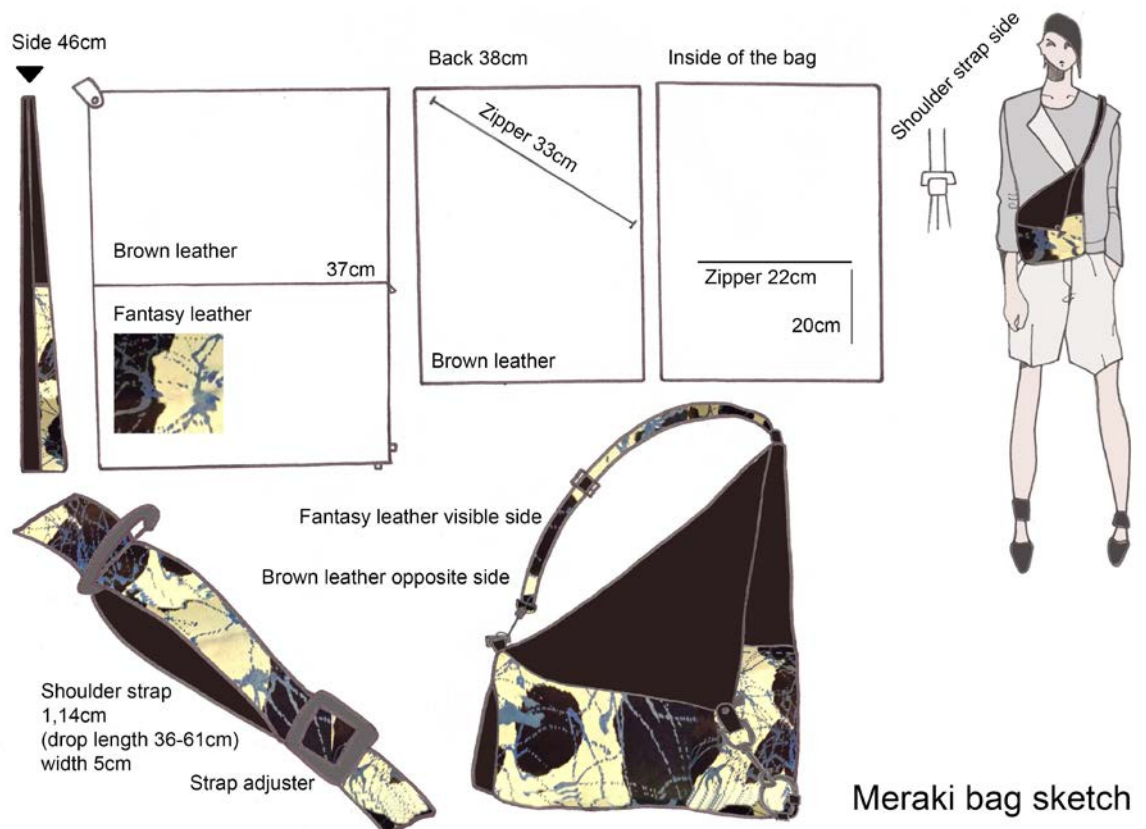


Picture 9. Picture of chosen leather for the first “Meraki” bag. (My own personal pictures, 2015.)

6.3 Meraki bag designing process up until the complete product

Once I knew which bag I would continue working on I had to make a proper flat drawing from the sketch I presented Kihlman. To be able to get the right measurements I made my own pattern and sewed a fabric prototype. As soon as my fabric prototype was complete I noticed many possible changes. The front pocket was too small because the initial idea was to be able to fit an iPad (197 mm high by 147 mm wide). The entire bag in itself had to be made wider as well. When

the necessary changes had been made the prototype was good enough to be shown to Mr. Anfuso who would do the final pattern. With the first prototype he would be able to understand the idea better than from a drawing. When we met with Mr. Anfuso he indicated he would have to make small changes because leather performs different to fabric. It took him two weeks to prepare the prototype and the result was exactly what I had hoped for.



Picture 10. Design explanation to Marco Anfuso. (My own personal pictures, 2015.)

6.4 Complete Meraki bag proposal and details

This is what I suggest the Meraki bag should be designed as:

The “Meraki” anti-theft bag features a roomy front pocket that holds a tablet (iPad), this pocket has RFID proof fabric between the leather and the lining. At the back inside, there is a zippered pocket that is also protected by RFID proof fabric. There is potential to use the bag in two different ways, as a square or as a triangle, depending on the need for space. When using the bag as a triangle

the snap hook on the top needs to be fastened on the left lower corner, when using as a square the snap hooks can be attached together.

<p>Product Description:</p> <ul style="list-style-type: none"> • Lockable zippers on the back • Slash-proof fabric • Holds computer and tablet (iPad) • RFID blocking fabric in pockets • Adjustable cut-proof shoulder strap • Inside pocket (for smart phone, wallet etc) with zipper • Genuine Italian horse leather on the outside • Lining artificial leather • SNAGG microchip • Hand made in Rome (Italy) 	<p>Measurements:</p> <ul style="list-style-type: none"> • Size: 38 x 46cm • Front side pocket: 37 x 20,5cm • Inside pocket: 22 x 20 cm • Back opening: 33 cm • Upper opening: 37 cm • Strap length: 1,14 cm • Strap drop length: 36-61 cm <p>All measurements in centimetres</p>
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Manufacturing costs: 202.67€ (Appendix 4.)



Picture 11. Complete “Meraki” bag from the front and back. (My own personal pictures, by Niuke Photography, 2015.)



Picture 12. The Meraki bag prototype. (My own personal pictures, by Niuke Photography, 2015.)



Picture 18 and 19. Bag as a square and triangle from the front. (My own personal pictures, by Niuke Photography, 2015.)

7 Interview and SWOT analysis

7.1 Summary of interview with Elena Kihlman

Kihlman is satisfied with the final bag because it suits her designing style, I managed to keep her concept in mind. The bag is sportive and “cool” which is something she wanted to sell in her shop. She also pointed out that the bag gives both of us the chance to further develop and improve the “Meraki” bag. Kihlman also mentioned with an optimistic approach that the future customer would like the bag because it is more about lifestyle than age-limitations. Because of the rising amount of pick-pockets and bag-snatchers Kihlman also thinks that there is a need for this type of bag in Rome. According to Kihlman it is a functional bag that makes it easy to use in everyday life. She clearly sees potential in the Meraki bag. Some small changes will be necessary, for example adjustments will be made to the shoulder strap and maybe a change of lining fabric to make the bag lighter. (Appendix 5.)

7.2 SWOT-analysis of Meraki bag

The choice to do a SWOT-analysis of the “Meraki” bag is because it will help me to follow-up my idea and develop future improvements. The strengths I can use to my advantage are; the new combination of materials, anti-theft materials to a designer bag. To design a leather bag for Elena Kihlman Design is also new because of the fact that she does not have leather bags for sale in her store. I have stayed loyal to my employers’ style/ concept and Kihlman got a good marketing strategy when selling my bag; every bag is handmade in Rome, Italian leather is used and each piece is unique. The bag is practical for everyday use and there is a need for anti-theft bags in Rome.

When it comes to the weaknesses; the manufacturing and equipment costs are high, if the equipment is bought in bigger quantities it would significantly decrease the price. Considering the quantities that have to be ordered by internet to get the equipment for the bags just makes it impractical for now. When designing a new product and using new materials, I have to know how the customers react, will

they like the bag and be interested in buying it or not, that it is a chance I have to take to get the opportunity to succeed. Because the bags are handmade, manufacturing time is another weakness. I ordered the bags to be ready on the 9th of April but they will be ready approximately one month later than my set dead line. So how can I turn these weaknesses into strengths? The equipment cost can be decreased if it is possible for further manufacturing. Ordering larger amounts through the internet for a lower price, the new materials are an opportunity and possibility to reach new customers. Considering the manufacturing time, in the future I will ask to have the bags ready earlier and then take the possible delay into consideration.

<p><u>Strengths</u></p> <p>New combination, materials and design Loyal to employers' style/ concept Unique bag, Nordic design exclusively in Rome Handmade in Rome, Italy Italian leather Need for an anti-theft bag Practical everyday use</p>	<p><u>Weaknesses</u></p> <p>Manufacturing and equipment costs are high New material leather and anti-theft Manufacturing time (handmade)</p>
<p><u>Objectives</u></p> <p>Future development, improving possible Multiple vendors Selling abroad Marketing on social media</p>	<p><u>Threats</u></p> <p>Design is not patented yet Equipment and material cost increase</p>

Figure 3. SWOT-analysis table.

The objectives for the bags future development and improvement are possible after testing it. As the bag sells I can get invaluable feedback from Kihlman and the customers. When I have the necessary stock I will also attempt to sell the bag to other stores in Italy and abroad, which would benefit both me and Kihlman.

Marketing on social media also presents an opportunity to reach a bigger amount of people.

How can I try to avoid the threats? My threats are that the design of my bag is not patented yet, so someone could easily steal my design and call it theirs. This is something I have to get more information about and try to solve. The equipment and material costs can be considered as a threat if the bags manufacturing becomes too expensive, there won't be any benefit in selling the bag if there is no market for it. To avoid that, I have considered buying bigger amounts of equipment. This will enable me to keep the price down in the future.

8 Conclusion

The entire point of my work was to design a bag that minimizes the risk of becoming bag-snatched. During the process I had to keep some fundamentals in mind like Kihlman's style and the new materials while it still had to remain a functional bag. I chose the subject for my thesis and its limits so the work wouldn't get side tracked and at the same time stay interesting. I allocated the information to different chapters so that at the end I would have the necessary knowledge to get a solution to the problem and answer my multiple questions.

Every chapter of my thesis is built up from the knowledge I required, and in the design process chapter I could then combine all the information to present a solution to the initial problem. With a logical approach I managed to gather everything I needed. Thanks to my research questions and the limitations I set for myself I managed to keep focussed on the same topic so that it would be easily understood.

8.1 The summary of my thesis

When I first set off, I had to take a closer look at theoretical information I needed. First I familiarized myself with the history of bags and different kind of bags. I had to know where and how it all began and of course what it looked like. I checked

for possible competitive companies to identify the potential competition. I took a closer look at the high risk areas in Rome and how to possibly avoid them, to be able to know what I was working against. If I wouldn't know the situation people get bag-snatched in and where in Rome, how could I then be able to design a bag that could possibly prevent theft? This is why I interviewed the police officer with experience in handling thefts.

I clarified what the riskiest circumstances are and then took that into consideration while designing my bag. This gave me the foundation I needed to be able to design the bag I believe could help people avoid getting bag-snatched.

The answers I gained from interviewing the police officer in the Vatican supported my own conclusions on how to avoid bag-thefts and what the most common ways to get bag-snatched in Rome are. I had confirmation that my work is accurate and important. Through my research and work I gained a lot of knowledge about materials that was unknown to me. I learned how to use new materials (like leather). New ideas for future work with Kihlman and how I could improve and develop my bag further came to light. Through the interview with Kihlman I got the confirmation that I had succeeded in my endeavour. The most important thing was to solve the theft problem and stay loyal to Kihlman's designing style.

How to design an anti-theft bag for Elena Kihlman Design in Rome? I received the answer to this question through the details of my work: target market, style of my employer, the most common ways to get bag-snatched and all the information about materials. In the chapter titled "design process" I explained the whole procedure up until the complete product and used the information I gathered before to find a solution to the problem. In the 7th chapter I looked at the strengths, weaknesses, objectives and threats the Meraki bag could possibly face. The fact that I could only manufacture one prototype of the "Meraki" bag made my final result limited but it will remain a good reference and continue an opportunity and business idea. I will receive feedback on how the potential customers reacted and what they thought about the bag when this thesis is completed. The information gathered about the high risk areas in Rome and how to avoid them has to

come to a conclusion at some point even if it is possible to go on and on about this subject. The materials I have chosen not to add in this thesis and further investigate will give me the opportunity to continue studying this subject and this project bag in the future.

8.2 Discussion

The greatest problem I had with my thesis was to create clear and flowing text. Initially I had the fear of not being able to express myself and my ideas clearly. I was tense and scared of what was lying ahead of me. I chose to write in my third language, English because it would benefit my employer in Italy and considering the possibility that I would want to show my thesis abroad. I dare to say that writing took most of my time while crafting the thesis. As I see the result of everything I believe that I managed quite well considering the level of writing skills and the command of my third language.

My own enthusiasm towards the subject and work kept me going with a positive attitude through the whole process. The support and opportunity Kihlman gave me is invaluable and this made me more interested in my work and gave it validation. I sincerely hope that the result of my work will benefit my collaborating company Elena Kihlman Design, and possibly inspire other designers to consider the safety in regards to decreasing the possibilities of getting bag-snatched. The information I have gathered gave me accurate knowledge about the development of anti-theft materials that is quite new in the field of fabrics and how to use them while designing a bag. I think I have given a very good proposal with my bag on how to keep all your valuables, but still reminding people that no bag can ever be 100% theft-proof.

The goal of my work was to find a solution to my problem, but also for me to personally develop my knowledge and skills as a designer together with a collaborating company and to work abroad, far away from my home country. This was to design a product people would benefit from having and consider as beautiful and functional. When I start a project I will always give my all, but in retrospect,

there is always something I could have done better. I think I succeeded in reaching my goal. I gained a massive amount of experience and new knowledge.

To be able to further develop my work I would need to make a real prototype with all the materials I have suggested. In that case I would be able to discern if it actually decreases the possibility of getting bag-snatched. I could have made away with some information about the high risk areas in Rome, history of bags and different bag types and instead take a closer look at more material recommendations. If I would have had the possibility to manufacture the bag with all its material and equipment suggested I think it would have made the entire project a lot more comprehensive. The big variety of Kihlman's customers makes it difficult to know how the bag will sell. If I would have been able to specify the target market better it would have made my work a bit more clear.

If I had limitless recourses I would have liked to do several interviews with potential customers, but because of lack of time that was not an option. That would have given me the knowledge of what the customer wants. I could for example have interviewed bag-snatcher victims and multiple police officers to acquire even more information. Basically by conducting more interviews I could have had first-hand information on what people would buy and what details on bags they require.

For future development, the possibility could be to design several bags in the same style to be able to make an entire collection. I think the prospective customers would like to buy products that are designed with the same idea or that are part of an entirety, for example a purse, wallet and belt in the same style.

The development of new anti-theft materials is advancing rapidly and there are new fabrics and equipment entering the market all the time. If I would have taken a look at several new materials I could have done a broader proposal on avoiding theft. The need for a bag will stay the same as when Ötzi the iceman 5000 years ago, chose to leave his cave with some of his belongings in a purse, but the look

of the bag will for sure continue to develop because peoples need to carry belongings with them will never change. There will be different aspects to take into consideration in the future. A deeper personal and interesting prospect for me is to continue with this bag and an entire collection. The next question is; how do I incorporate more of modern technology in the bags.....

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Interviews

Officer X, 2015. Police Officer in the Vatican, Police officer at Polizia di Stato Italiana. Interview: 10.2.2015

Elena Kihlman, 2015. Vaatesuunnittelija, yrittäjä. Elena Kihlman Design. 7.4.2015

Picture references

Picture 4. CobalTex fabric picture. Less EMF Inc, 2015. Shielding & Conductive Fabrics. Less EMF Inc. <<http://www.lessemf.com/fabric.html#1271>>

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Picture 7. SNAGG product image, Blue Sail Technologies, 2013. SNAGG RFID Retrofit Kit (single-pack). <<http://www.snagg.com/microchip-retrofit-kit-single-pack>>

(Read 5.2.2015)

Appendices

Appendix 1 Interview with Police officer X

Officer X, 2015. Police officer in the Vatican, Police officer at Polizia di Stato Italiana. Interview: 10.2.2015

Interview with a police officer in the Vatican:

- What kind of bags makes people easy targets for bag-snatchers?
 - Bags without zippers (open-bags) are definitely the easiest targets in Rome. This is because of the big crowds of people; someone can just push (by accident) and at the same time take something from your bag.

- What are the most common ways to get bag-snatched?
 - Thieves who slash the bottom of a bag with a sharp knife or utility knife are in my opinion the most common way that I am aware of. Up to date there has not been any studies done on the most common ways.

- Which areas are the riskiest places in Rome to fall victim to the bag-snatchers?
 - There are so many places. All tourist attractions are obviously high risk for these petty crimes but the orange metro line A is famous for its thieves. This line passes all the tourist attraction, the Vatican and the central railway station Termini.

- How can people prevent becoming a victim of bag-snatchers?
 - I would suggest keeping the shoulder strap under the jacket, money-belts under the shirt/jacket.

- Is it possible to avoid/minimize the risk of theft by using theft-preventing materials?
 - I think it decreases the risk if it is not possible to cut the bag with a knife or scissors.

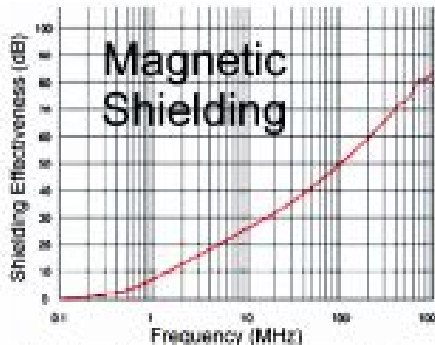
- Can he recommend some extra equipment to accompany the bag?

- Personally I would put some kind of similar powder/chemical that is used in money transportation. The chemical could be placed between the lining fabric and outer fabric, when someone would cut the fabric the thieves would be covered in powder. But for suggested equipment, something that would make it more difficult to open a zipper.

Appendix 2 CobalTex™ product information

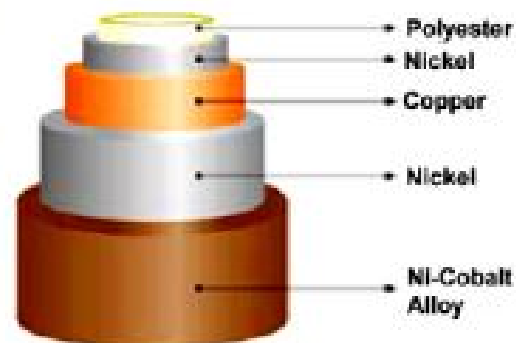
COBALTEX™

Near Field Magnetic RF Shielding

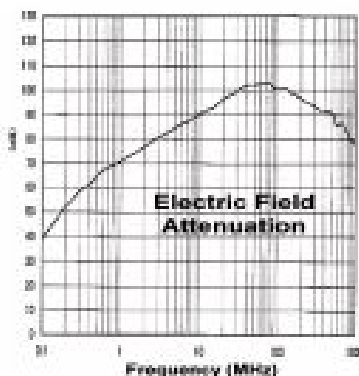


Cobalt alloy top coating, this material offers remarkable radio-frequency magnetic shielding in difficult near field conditions. Great for reducing interference between tightly placed

This is a very unique multi-metalized fabric. Of course you get good far field RF shielding: 65-80 dB tested over 30MHz to 1GHz. But in addition, because of the



Thread Composition



components. Light weight (only 100 g/m²) and very flexible, tight taffeta weave. Resistivity less than 0.1 Ohm/sq. 42 inch wide, silver colored.

CobalTex™ (Cat. #1271)

Exclusively from:
 Less EMF Inc
 "The EMF Safety Superstore"
 776B Watervliet Shaker Rd
 Latham NY 12110 USA
 Tel: 518-608-6479
www.lessemf.com

Appendix 3 Cut-Tex® PRO product information



The World's Best Cut Resistant Fabric

TECHNICAL DATA SHEET

Product Description:

Cut-Tex® PRO is an ultra-high cut resistant fabric, made out of an innovative combination of ultra-high molecular weight polyethylene (UHMWPE) and other technical fibres weaved by special high-density knitting machines.

Cut-Tex® PRO is manufactured at a UK based ISO 9001:2008 quality standard controlled manufacturing facility.

Key Applications

Cut-Tex® PRO has countless potential applications. It is primarily being used to create cut resistant clothing, to protect homeland security professionals, such as law enforcement, prison, and private security and immigration officers, as well as public transport employees from cut/slash related injuries (lacerations). Additional key sectors for cut resistant clothing made out of Cut-Tex® PRO are flat glass handling, metal sheet pressing and similar industries.

Due to the exceptional tear resistance of Cut-Tex® PRO, this fabric is also being used to manufacture tear and bite resistant clothing for mental health care facilities and secure hospital facilities around the world, as well as schools specialised in severe learning disabilities, challenging behaviour, special needs and autism. Even if Cut-Tex® PRO cannot stop the sometimes severe bruising following a human bite, it will eliminate the risk of potentially severe infections following the skin penetration of a human bite.

Most recently Cut-Tex® PRO is being used to create cut resistant seating within public transport, cut resistant back packs or cases for travellers, and protective clothing for animals. Many other tests around the world are currently conducted to establish additional potential applications.

Standards Width & Length of Fabric Roll

- Cut-Tex® PRO fabric is knitted on a circular machine, resulting in a tube of material, measuring 80cm flat width (160cm cut open)
- Our Cut-Tex® PRO fabric will be supplied as a tube of material.
- Each roll is 25 metre in length (40 square metre)

Fabric Weight

- 447gsm (grams per square metre)

Protection Levels

- ISO 13997:1999 Blade Cut Resistance Level 5 = 27.8 Newton
- ASTM F-1790-05 Blade Cut Resistance Level 4 = 2,580 grams/force
- EN 388:2003 Tear Resistance Level 4 = 358.5 Newton
- EN 388:2003 Abrasion Resistance Level 4 = More than 8,000 cycles

Appearance

Cut-Tex® PRO is available in one colour only. It should be described as a combination of light grey to medium grey colours, with a light to medium grey appearance.

Additional Information

- Cut-Tex® PRO has been washed in TEN Durawash twin-tub industrial machines. This is equivalent to 50 washes in a domestic washing machine. The cut resistance level, following this washing process has INCREASED by 4%. Test reports from INTERTEK are available upon request.
- Cut-Tex® PRO is bleach resistant
- Cut-Tex® PRO is a yarn dyed fabric
- Cut-Tex® PRO is NOT fire retardant, but it can be treated with any high quality flame retardant spray/wash.
- Cut-Tex® PRO is only available from UK based PPSS Group.
- The supply/purchase of Cut-Tex® PRO is subject to a license agreement.
- For intellectual property/copyright reasons, our high performance fabric cannot be marketed or sold under the name Cut-Tex® PRO in Germany.

WORKING WITH Cut-Tex® PRO

Cutting of Cut-Tex® PRO

- We recommend 'Hoffman HF125P' Rotary Cutting Machines or CNC cutting for high volumes.

Sewing Needle Type

- We recommend Groz & Beckert needles, with different tips and various thickness of the needle, depending on what fabric needs to be sewn.
- Apart of FFG tip that is used for F02 fabric and R tip which is used for Cordura, we recommend using Groz & Beckert RG tip needles to sew Cut-Tex® PRO.
- Thickness of the needle: for Cordura we recommend 90-110 thick, for F02 70-90 thick and for Cut-Tex® PRO 90 thick.

Thread Type

- We recommend Amann's thread (model: Saba)

Would you please describe the equipment you use for these operations?

- We recommend overlock Juki machines with cutting knife system. However it seems that it is more a matter of experience and skill rather than any special techniques. We do not use any non-traditional sewing or hemming techniques. We could send a sample for you to evaluate.

How much would the fabric and threads cost us?

- We would only supply the fabric. You would have to source your own threads.

Do you know the International customs code for the fabric and production?

- Fabric: 60063190
- Garments (made of Cut-Tex PRO: 61103091

Disclaimer

The information on this technical data sheet is based on the current status, as well as our personal experience with Cut-Tex® PRO. However, the information should not diminish the responsibility of the user to ensure with due care, that our Cut-Tex® PRO cut resistant fabric is suited for the intended purpose, surface and application.

Contact Details

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W: www.ppss-group.com

Cut-Tex® PRO is a registered trademark of PPSS Ltd.

Appendix 4 Expenses for the Meraki bag

Pricing					
Discription	Price per unit	Unit size/quantity	Amount needed	Cost/ bag with anti-theft materials	Cost/ bag without anti theft materials
Fantasy leather	104.00 €	1 m ²	$((23 \times 39) + (60 \times 5)) \times 2$	35.00 €	35.00 €
Brown leather	30.00 €	1 m ²	1m ²	30.00 €	30.00 €
Lining fabric	8.50 €	1 m ²	0.5	4.25 €	4.25 €
RFID fabric	17.01 €	30,48cm	70	34.02 €	0.00 €
Cut proof fabric	49.83 €	1 m	0.5	24.91 €	0.00 €
Snagg chip	9.44 €	1 unit	1	9.44 €	0.00 €
Snap hook	2.20 €	1 pc	2	4.40 €	4.40 €
Zipper	1.50 €	1 pc	1.4	2.10 €	2.10 €
Carabiner	0.50 €	1 m	1	0.50 €	0.00 €
Metal halfmoon keyring	0.25 €	1 pc	2	0.50 €	0.50 €
Metal circle keyring	0.25 €	1 pc	1	0.25 €	0.25 €
Shoulder strap adjuster	0.35 €	1 pc	1	0.35 €	0.35 €
Lockable zipper head	0.50 €	1 pc	2	1.00 €	0.00 €
Normal zipper heads	0.30 €	1 pc	3	0.90 €	2.40 €
Buttons	0.05 €	1 pc	1	0.05 €	0.05 €
Manufacturing	55.00 €	1 unit	1	55.00 €	55.00 €
			Total:	202.67 €	134.30 €

Appendix 5 Interview with Elena Kihlman

Elena Kihlman, 2015. Vaatesuunnittelija, yrittäjä. Elena Kihlman Design.
7.4.2015

- Does the bag suit your designing style?
 - Yes, it suits my designing line and style. I got the chance to choose from the designs you presented to me. I chose the one with the most potential. You have kept my idea of design, kept my style in mind and my whole concept. This bag also gives you the chance to further develop the design and if I need to make some necessary changes. The Meraki bag is not complicated, it is neat and sportive. It is a “cool” bag that I want to have in my collection.

- Do you think there will be potential customers who would be interested in buying my bag?
 - Yes, I think it depends on the customers’ style, there is no age limit for your bag it is more a question about lifestyle.

- Is there a need in Rome for anti-theft bags?
 - Yes, there are a lot of pickpockets and bag-snatchers in Rome.

- Will my design work in everyday life?
 - Basically, it is colourful which is great because there are a lot of colourful bags in the fashion magazines at the moment. The pockets make it very functional and as I said before it is sportive so it suits everyday occasions because it is not an evening bag or clutch.

- Are you happy with the result?
 - Yes, some small changes will be necessary when we see how it will sell and after we have tested the bag ourselves. We can change the lining fabric to make it lighter, and the shoulder strap could be only leather without any fantasy leather because the hair might shed while using the bag. The colours are playful and happy which is a good idea together with the

prospect to sell the future production of the bag as unique handmade pieces.