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**Product management in an international environment: how
virtual and cross-cultural teams influence the role of a product
manager**

Relatore: Chiar.mo
Prof. Riccardo Cappelli

Tesi di Laurea di:
Alessandro Silvestri

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INTRODUCTION (English)

This study attempts to investigate the key difficulties and opportunities in leading cross-cultural, geographically dispersed and virtual product management teams.

The initial stages of the project relied on desk research, which was done to review the body of knowledge on the subjects of product management, virtual teams, and cross-cultural management. This review covered pertinent works on product management, business organizations, the creation of new products, and team management literature. Given the existing commonalities between IPM (international product management) and other sectors, such as research and development (R&D), innovation, and manufacturing, it was thought relevant to analyze the referred papers even if many of them have no direct connection to IPM. The literature sections on product management, virtual teams, and cross-cultural teams were preserved as separate conceptual building blocks to emphasize the traits of each team and make it easier to acknowledge those traits throughout the exploratory phase.

The following stages of the project were empirical and comprised exploratory qualitative research. An in-depth survey, with a chosen sample of the study's target group—International Product Managers in a multinational corporation—were conducted as part of the empirical fieldwork. The participants contacted for data collecting had quite different organizational and cultural backgrounds, but they

handled similar product portfolios. In order to create a rich environment for data collection, the interviewees were chosen by taking into account a variety of factors, including their professional and academic backgrounds, and a spectrum of several cultures and locations.

The initial impetus for this study came from the recognition of the difficulties faced by International Product Managers (IPMs) in multinational corporations operating in global marketplaces. The role of IPMs is characterized by the lack of a clear degree or career path leading to work as an IPM, as well as a lack of consistency regarding perceptions of the role and visibility of IPM functions within organizations (which resulted from the fact that it was possible to observe IPMs handling various market/product scopes and responsibilities in different organizations).

The major goal of this study was to determine whether various organizational structures result in various working methods without necessarily altering the essential elements of the IPM role.

The features and scope of product management are discussed in the first chapter, from the necessary skill set to the obligations and difficulties of the job inside corporate organizations. The following chapter takes into account and explains the characteristic of virtual and multicultural teams, by pointing out the key advantages and disadvantages, in order to have a better understanding and a clearer idea for the questionnaire. As further described in the following section, the goal of this

framework was to pinpoint the primary subjects to broach throughout the questionnaire stage. A questionnaire that was designed in accordance with the information from the previous chapter, i.e., addressing the professional experience and academic background, working styles, locations, and cross-cultural aspects, was developed to gather information about the profiles of the study participants. The analysis aimed to comprehend the extent of the influence organizational culture exerts on its teams' methods of working (taken for granted in some cases but not really recognized), the effects of dispersed teams on professionals' and individuals' methods of working and performance, the difficulties of multi-cultural relationships within the team and/or the rest of the organization (impact of stereotypes, different languages, and cultural differences), and the extent to which e-learning influences organizational culture. Then, the feedback gathered from the participants is reported in the findings section and then, the outcome of the elaborate is summed up in the conclusion section.

INTRODUCTION (Italiano)

L'obiettivo di questo elaborato è identificare e comprendere come team multiculturali, geograficamente dispersi e virtuali influenzino il product management, analizzando le principali difficoltà ed opportunità.

Le fasi iniziali dello studio si sono basate su una ricerca che esamina il ruolo del product manager e della gestione dei team multiculturali e virtuali. Questo studio aiuta a comprendere le principali azioni condotte da un product manager e le sue responsabilità. Inoltre, spiega l'importanza dell'organizzazione e della cultura aziendale, insieme alla gestione di team diversificati, identificandone i principali fattori che possono influenzare la posizione.

Dati i punti in comune tra l'IPM (international product management) e altri settori, come la ricerca e sviluppo (R&D), l'innovazione e la produzione, si è ritenuto importante analizzare i documenti citati, anche se molti di essi non hanno un collegamento diretto con l'IPM. Le sezioni relative al product management, ai team virtuali e ai team interculturali sono state mantenute come blocchi concettuali separati per sottolineare le caratteristiche di ciascun team e rendere più facile riconoscere tali caratteristiche durante la fase esplorativa.

Le fasi successive del progetto sono empiriche e comprendono una ricerca qualitativa esplorativa. Nell'ambito del lavoro empirico è stata condotta un'indagine approfondita con un campione scelto del gruppo target dello studio – product

managers di un'azienda multinazionale con team dispersi geograficamente. I partecipanti individuati per la raccolta dei dati hanno contesti organizzativi e culturali piuttosto diversi, ma gestiscono categorie di prodotti simili. Al fine di creare un risultato fondato ed interessante, i partecipanti sono stati scelti tenendo conto di una serie di fattori, tra cui le loro aree di responsabilità come product manager, l'inclusione di diversi background professionali ed accademici ed uno spettro di diverse culture e località. L'input iniziale per questo studio è venuto dal riconoscimento delle difficoltà affrontate dagli International Product Manager (IPM) nelle multinazionali che operano nei mercati globali.

Dunque, l'obiettivo principale dell'elaborato è quello di determinare se diverse strutture organizzative e culture si traducono in diversi metodi di lavoro senza necessariamente alterare gli elementi essenziali del ruolo dell'IPM.

Nel primo capitolo vengono discusse le caratteristiche e l'ambito del product management, dalle competenze necessarie agli obblighi e alle difficoltà del lavoro all'interno delle organizzazioni aziendali. Il capitolo successivo prende in considerazione e spiega le caratteristiche dei team virtuali e multiculturali, evidenziandone i principali vantaggi e svantaggi, al fine di avere una migliore comprensione ed un'idea più chiara per il questionario. In seguito, nel terzo ed ultimo capitolo, per raccogliere informazioni rilevanti allo studio, è stato elaborato un questionario progettato in conformità con le informazioni del capitolo

precedente, tenendo in considerazione l'esperienza professionale e il background accademico, gli stili di lavoro, i luoghi e gli aspetti interculturali e comportamentali. L'analisi mira a comprendere l'influenza che la cultura organizzativa esercita sui metodi di lavoro dei team (in alcuni casi data per scontata, ma non realmente riconosciuta), gli effetti dei team dispersi sui metodi di lavoro e sulle prestazioni degli individui e le difficoltà delle relazioni multiculturali all'interno del team e/o del resto dell'organizzazione (impatto degli stereotipi, delle lingue diverse e delle differenze culturali). I feedback raccolti dai partecipanti sono riportati nella sezione dedicata ai risultati e l'esito dell'elaborazione è riassunto nelle conclusioni.

1. PRODUCT MANAGEMENT

This chapter provides a comprehensive introduction to the field of product management, that is a critical function in any organization that creates and sells products. Product management involves overseeing the development, launch and growth of a product, from ideation to retirement. This translates into conducting market research, defining the product vision, setting product strategy and goals, determining target customers, and determining the features and functionalities that will best meet their needs. In addition, product managers are responsible for making key decisions about pricing, positioning, and promotion, and for ensuring that the product is developed and launched in a timely and cost-effective manner (Lemser, 2019).

Sub-chapter 1.1 will dive into the key responsibilities and skills of a product manager, the role of product management in an organization, and the various steps involved in the product management process, by providing a thorough insight around all the aspects of this central position.

1.1 INSIGHT INTO THE ROLE

A product's life cycle is now far shorter than it once was, as a result of scientific and technological advancements as well as quick market adjustments. Industry must continually develop, explore new products, select items with the right technology, respond to consumer wants, and contend with the threat of new competitors.

In the business world, product managers are in charge of a product's entire market success. According to Meža (2009), the aim of product management is to share between different departments key information that are essential in order to take business decisions. In addition, by going more deeply, product management can be considered as the business organizational structure that supports the marketing and sales of a single product or family of goods across the course of the product life cycle. The operations necessary to launch the product onto the market and provide ongoing support are handled by the following structure. A single individual, the product manager, is in charge of overseeing various operations from several business functions (Haines, 2013).

To boost the efficiency of the business operations related to its products, Procter & Gamble was the first company to establish the position of brand manager in the 1930s. What is believed, is that it all started as a justification to hire more people at the beginning. Other organizations in the following years started introducing the product manager's role. Of course, in the bigger companies the role was narrower

and more focused on certain tasks, while in smaller companies the role was broader. However, at the beginning product management was a significant component of the marketing role. They concentrated on the process of comprehending the demands of the clients and figuring out how to meet those needs by utilizing the traditional marketing mix—the right product, in the right place, at the right price, with the right promotion. Then product management shifted more and more toward a marketing communications position, focusing on finding the ideal balance of packaging, price, promotions, brand marketing, etc. while delegating responsibility for the product's development to others. However, as the role evolved into the tech sector, this separation from product development and production became untenable. As a result, product development was once again placed at the core of the product management role. This was because it was crucial to not only comprehend the needs of the customer but also to align the product's development with them (Eriksson, 2015).

As mentioned above Procter & Gamble firstly introduced the brand manager, an individual that was responsible for the success of a brand and manages its product lines. This first stage of this new role was a new strategy for companies, something that was not really present in the business environment before. The following stage is a step towards the product management position, a middle management position in the business organization in charge of a product's success but with no direct control over the development or sales entities (Gorchels, 2003).

Then, the actual role of product management is business management at the level of a single product, a product line, or a product portfolio, where the products are seen as small businesses operating within a larger business. A product manager may be partially or fully in charge of a product platform, a single product, a product line, a small product portfolio, or a number of product lines (a larger portfolio) (Haines, 2008). After

In order to advocate for the requirements and aspirations of the client, the product manager assesses the product concepts and determines which are worth pursuing and which are not (Windley, 2002). This assessment must establish the requirements for success (Cagan, 2008).

According to Gorchels (2011), companies need product managers to serve as general managers of their goods due to international growth, more complex products, and more demanding customers. A product manager in a multiproduct corporation acts as the "general manager of a virtual company," advocating for particular goods, names, or services. This results in a set of offerings committed attention, but it can also present difficulties. Product managers must balance the responsibilities of marketing already-available products with those of creating new ones. When competing with other product managers within the same organization, they could also experience resource limitations. With the aim of achieving long-term customer satisfaction and a competitive advantage, product management is the

entrepreneurial administration of a piece of business (product, product line, service, brand, segment, etc.) as a "virtual" corporation.

However, as stated by Cagan, 2008, being the product CEO requires a product team, with the product manager at the nexus of business, technology, and user experience. Product managers should be focused on optimizing a product to accomplish the business goals and, at the same time, aim to maximize the ROI (return on investment).

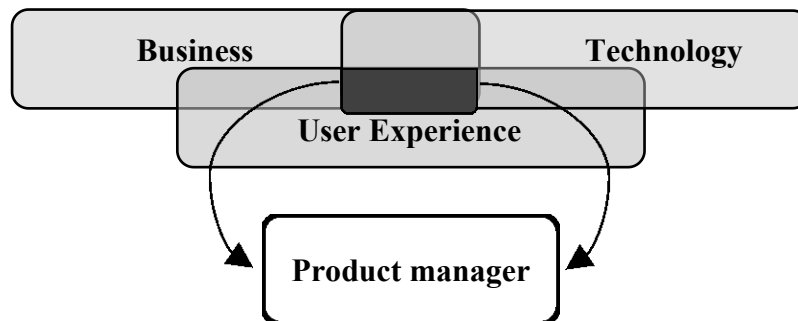
Figure 1.1 illustrates the role of product management by showing how it positions at the junction of the following areas:

- User Experience: the product Manager defends client requests and preferences to the business and technology units since they are the voice of the user within the organization. This is crucial for the user experience (Ux). UX is produced using the thoughts and feelings that people have about a specific product, whether it is tangible or not, from first contact, which could be the moment the customer sees the advertisement, trial, or purchase moment, or long-term use (Kraft, 2012);
- Business - Product Management: it is a function that focuses on increasing the business value of a product while also acting as the voice of the

consumer. Therefore, achieving corporate objectives while optimizing return on investment is one of the major objectives. The process of selecting the projects to invest in is crucial for this (Gorchels, 2003);

- Technology: it is crucial to comprehend the effort and technology levels involved in order to define the product correctly. Knowing how to build is essential before deciding what to accomplish because it will affect the entire project, affecting the amount of time and resources needed. (Cagan, 2008).

Figure I.1 Positioning of Product Management function, adapted from Eriksson (2011)



A product manager's work involves a number of duties that can differ from company to company because it crosses various functional areas of the corporate organization. Table I.1 below provides an overview of the range of such functions, together with the three areas of focus from the organizations shown in Figure I.1 - Business, Technology and Ux.

Table I.1 Summary of the duties of a product manager, based on Cagan (2008), Gorchels (2003), and Windley (2002).

| Product manager responsibilities | Areas of action within organizations |
|---|---|
| Defining and planning product lines and product enhancements | Business, Technology |
| Managing product contracts and sales | Business |
| Setting strategic direction based on customer needs and business goals | Business, Ux |
| Translating strategic goals into operational tasks | Business, Technology |
| Making proposals to senior management regarding implications of proposed plans | Business |
| Serving as a representative to internal and external clients. Taking the lead in establishing tactical plans and objectives | Business, Technology, Ux |
| Developing and implementing administrative and operational matters ensuring achievement of objectives | Business |
| Evaluating risks and trade-offs | Business, Technology, Ux |
| Proposing contingency plans | Business, Technology, Ux |
| Analysing business processes and creating applications to improve or support those processes | Business |
| Branding | Business, Ux |
| Working with graphic designers to create look and feel | Ux |
| Defining navigational flow and user experience | Ux |
| Defining feature sets | Business, Technology, Ux |

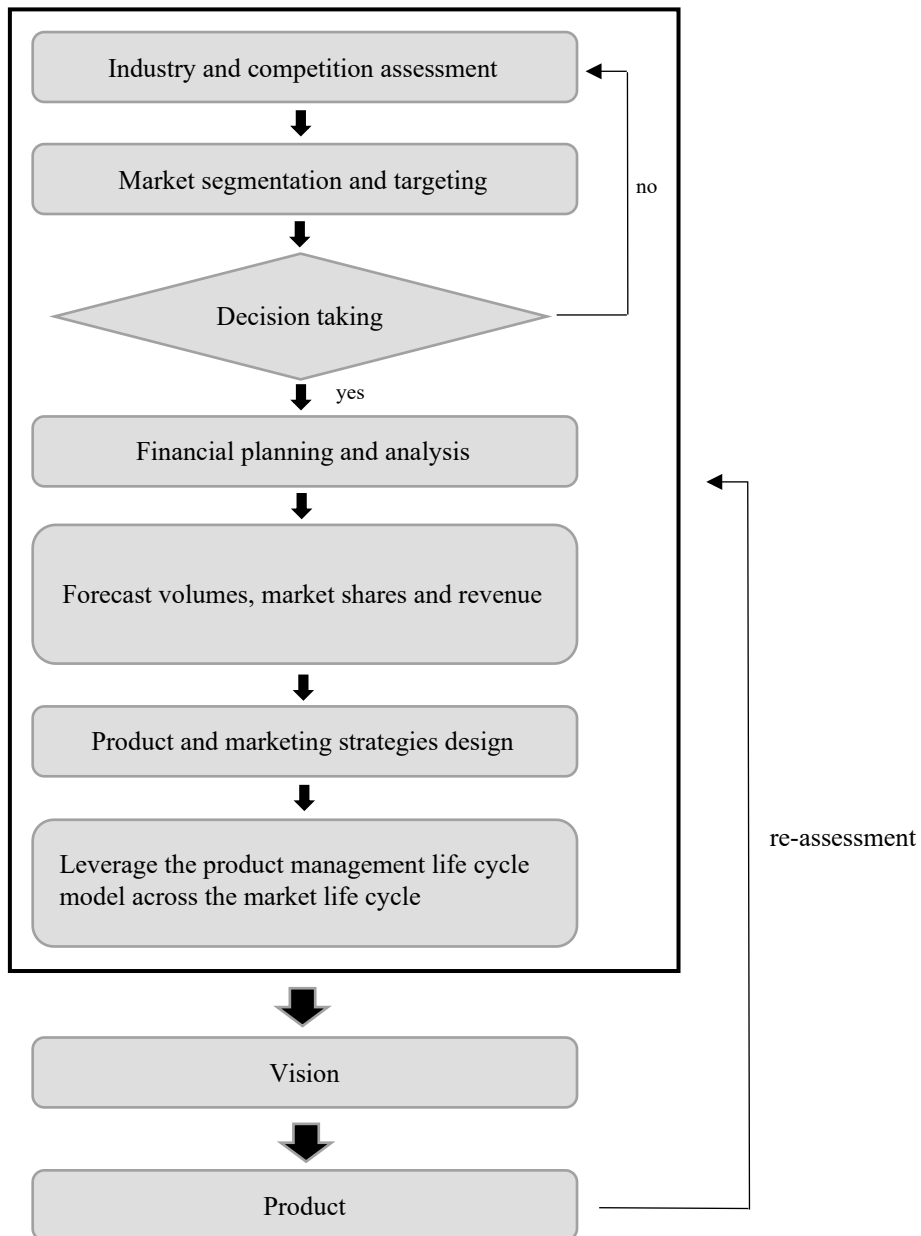
By no means are the main activities of product management centered on a product or management tasks. They are associated with hands-on involvement in project development and new product planning. The quality of the product or the degree of its success can be used to evaluate the results of the product management effort. It goes without saying that there are some items that have a higher chance of being successful on the market than others, and vice versa. Product management is crucial in avoiding and mitigating any product crises that would impair market communication and the successful commercialization of innovations and improvements (due to poor advertising start and inadequate advertising strategy).

1.2 THE STAGES OF PRODUCT MANAGEMENT

At this point, one question arises: “What does a product manager actually do? And how does he/she do it?”

Setting a vision for the product is the first step in the product manager's job. The vision is based on market research-assessed client wants, requests, and challenges. When information is available, the product manager combines it to create a vision for the product utilizing, for example, quantitative data from web analytics, research papers, market trends, and statistics (Gorchels, 2003). To "arrive at the vision," Eriksson (2011) suggested seven stages that must be taken, which are going to be displayed in Figure I.2.

Figure I.2 The steps undertaken by a product manager, based on Eriksson (2011)



To understand more thoroughly each step, below each step is going to be explained:

1. Evaluating the market and rivalries.

It is important to consider the environment in which the business works and where it may operate in the future before allocating resources to any initiative. It is feasible to establish revenue prospects, market segmentation, and customer targeting based on this assessment, which takes into account both the company and its products as well as client needs (Zahid, 2013).

2. Market research and segmentation.

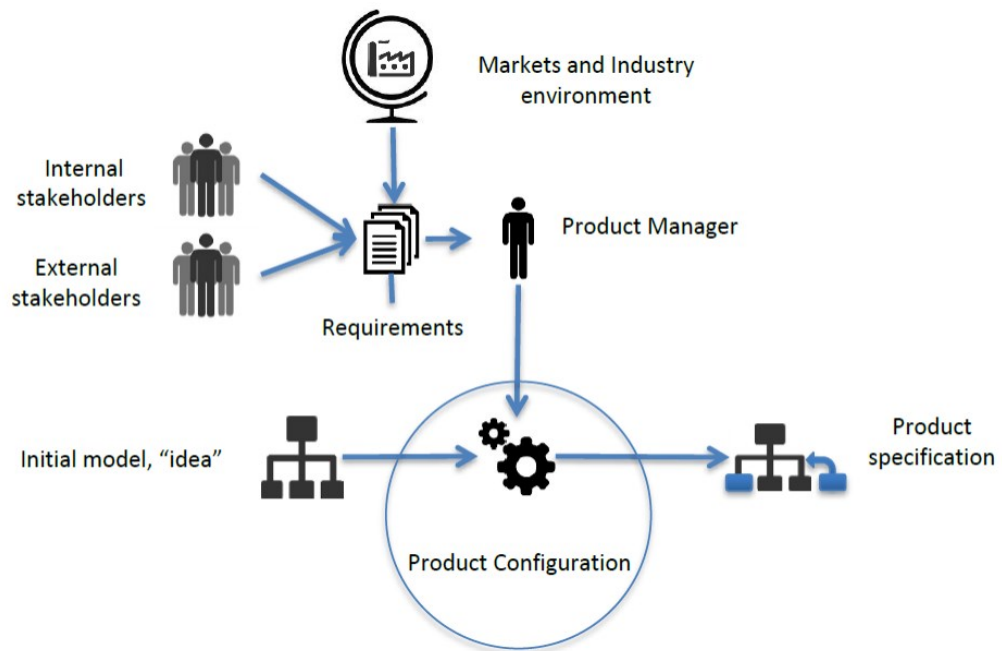
A collaborative effort from a cross-functional cooperation is required to define the product customers, and, whenever possible, external research organizations must be included. Often, the task of leading and managing this activity falls to the product manager. Knowing which set of consumers are sufficiently similar to one another so that the same good or service will appeal to all of them is essential when segmenting markets (Barringer and Ireland, 2010). Market research and segmentation are important in the definition of a new product, but they cannot take the place of the task of identifying client demands. The product manager must lead this discovery process and take responsibility for the findings because often not even the

customer is aware of a fundamental need or a "better" approach to solve it (Haines, 2008).

3. Decision making

Throughout the life cycle of the product, product managers must make the best judgments conceivable in almost real time. Figure I.3 pictures a conventional configuration process in which external and internal stakeholders send requirements to the product manager, who then analyzes and converts them into a product specification, which, after review with all stakeholders, results in a product configuration (Mendonca et al., 2008).

Figure I.3 Illustration of a decision-making model for a product manager, based on Mendonca, Bartolomei and Cowan (2008).



4. Financial planning and analysis

Product managers must plan for product profitability and evaluate the profitability of existing products, working with finance to achieve a balance between the cost of products and the desired market price. Businesses invest money in products that are anticipated to generate a positive return on the business. Customers are unconcerned with internal costs or methods of

fixing prices. Their only concern is determining if a product has enough value in light of the available competing alternatives (Gorchels, 2000).

5. Forecasting volumes, market share, and revenue.

From beginning to end, the Product Manager should and must be responsible for this task (Haines, 2013). Forecasts are essential in order to achieve great outcomes. What plays an important role here is alignment with markets, together with clear communication. If these are missing, then market share and revenues will be influenced, and results will quite likely be insufficient. This is because product management starts from the really lower layer and, thus, it is important to have every step under control among every department in the clearest way.

6. Marketing and product strategies.

With the aid of a cross-functional team and in accordance with the forecasts, these strategies are created, resulting in the product's vision. The primary duty of the product manager is to coordinate the company's and the product's strategies, making sure they are not only compatible but also interrelated in order to examine all potential opportunities for product portfolio investments (Haines, 2008).

7. Product Management Life Cycle

This phase comes only once the strategy has been established, and it must be used throughout the market's life cycle, which comprehends the integration of people, processes, business systems, and information in order to facilitate the collaborative generation, management, dissemination, and use of product definition information across the organization from concept to end of life (Gecevska et al., 2010).

In order to undertake the above steps of Figure I.3, a manager should possess certain skills which are essential to succeed. Among these, we have leadership; the manager is supposed to stimulate, encourage, and rely on each member while supervising them, from sales to developers and stakeholders. More concisely, it means to convince individuals to follow a vision (Bush, 2003). Then, a manager should be able to influence the team, by directing it towards the desired result, without imposing decisions in a strict manner, but by making sure there is trust, spirit of unity and teamwork: everyone needs to believe in the skills of each other and the whole team must go in the right direction with the right directives. Success is the result of a team, not of a singular member. Moreover, the achievement of a goal depends also on the ability of the manager to understand the needs of the stakeholders and build strong, long-lasting relationships, along with putting effort into adopting a clear and concise way of communication (Cohen and Bradford,

2011). Finally, cross-functional teaming is extremely important. When aiming to increase efficiency and valuable outcomes, it is always important to have different point of views and sets of skills, along with expertise, knowledge and criticism from different areas (Huth, 2008).

Since there is no clear degree or career path to attain the position of product manager and different companies manage their products in different ways, it is possible to find these professional figures coming from a variety of backgrounds (Zahid, 2013).

As explained in this subchapter, the product manager develops, maintains, and ensures the execution of the numerous plans and documents necessary to give life to a product and keep it healthy in the various phases of the Product Life Cycle (e.g., Product Strategy, Business Case, Launch Plan, Marketing Plan, Product Requirements, Marketing Mix, Phase-in/ Phase-out plans, etc.) (Gorchels, 2011).

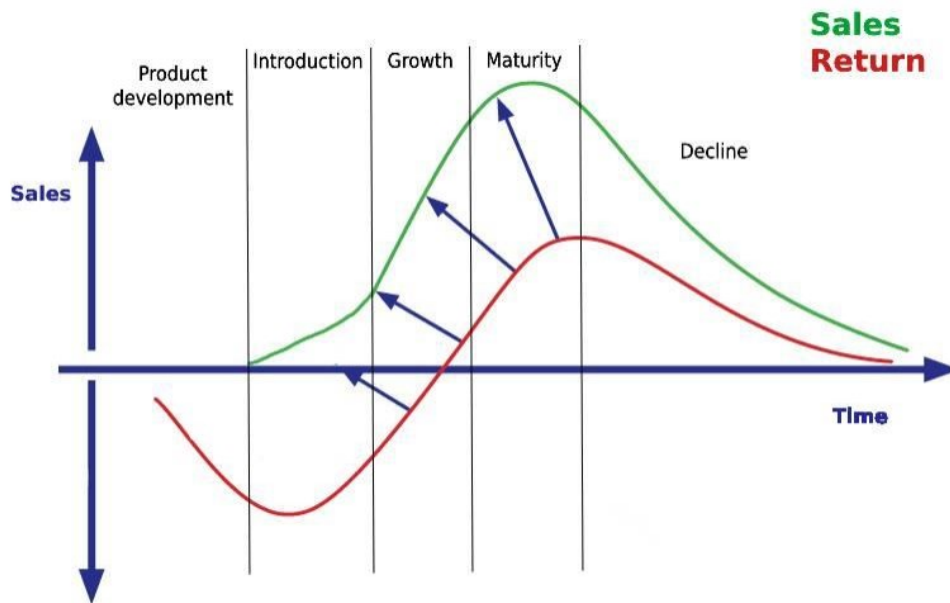
It is important to focus on the product lifecycle management: a fundamental aspect for a product manager, which literally consists in all the main stages of life of a product, from the initial launch in the market, its “journey” in it and finally its maturity followed by the decline. This key topic is going to be discussed in the next sub-chapter.

1.3 THE PRODUCT LIFECYCLE MANAGEMENT

Every good and service has a certain life cycle. The life cycle is divided into phases and relates to the time from the product's initial release to its final decline and release from the market. Many adjustments will be made to the product's market behavior during this time, including how sales of the firm that introduced it to the market will be impacted. The management of the product's life cycle is crucial because a company's main objective when introducing a product to the market is to maximize profits. Some businesses employ strategic planning, while others adhere to the fundamental guidelines of the many life cycle phases that are evaluated subsequently (Ferrero, 2018).

According to Willey (1995), the product's life cycle consists in five phases, which are typically product development, product introduction, product growth, product maturity, and finally product decline. These stages do exist and are applicable to all goods and services, whether they are a thousand-dollar product or a fifty-cent product. These phases, which can be divided into smaller ones depending on the product, must be taken into account when a new product is being brought into a market because they affect how well the product sells. Figure I.4 helps understand the five phases of a product during its lifetime.

Figure I.4 Life Cycle of a product



A company starts the product development phase when it creates a new product idea starts developing it. In order to do this, various informational fragments must be translated and incorporated into a brand-new product. Prior to being made available to target customers via test markets, a product often goes through multiple alterations involving a significant investment of time and money during development. The introduction phase of the product begins with the launch of those products that make it through the test market into a genuine marketplace. Sales are zero and revenues are negative throughout the product development stage. This is

a period of spending that has absolutely no benefit in the immediate future (Stark, 2011).

The introduction phase includes the production launch, which aims to have the greatest impact on sales and in terms of strength for the brand. It is typical to spend a lot on promotion and advertising, together with fast but expensive service requirements. A company must be ready to spend a significant amount of money and only regain a small fraction of it, afterwards. Distribution plans are developed during this phase. Some companies use outside contractors or outsource the entire distribution system to reduce this stress, since it is a quite complex phase in the process. This has the advantage of evaluating a crucial marketing tool, like outsourcing. The organization should also think about pricing at this stage. Product pricing typically adheres to organized strategies. Early adopters will pay a high price for a new product, which will partially reduce the negative profit that is present at the beginning. Later, as the product is more competitive, the pricing strategy should be more aggressive. Another approach consists into setting a pre-determined price that is thought to be the best one to optimize sales. This, however, necessitates a thorough understanding of the market and what consumers are ready to spend for freshly presented goods. The introduction phase can be successful thanks to the outcome of decisions made by the company before the product is released onto the market. This includes market research in the prior phase of product development together with the development of a marketing strategy. Part of the

development of a new product is its design, which is greatly influenced by customer demands for features, functionality, pricing, and packaging. Customers can inform a corporation about the qualities of a product that they find appealing and those that they feel shouldn't be included. He will give suggestion on how the product can be more practical and beneficial. This is why feedback from the customer side is always important (Stark, 2011).

Excitement and satisfaction are present while watching the product succeed in the market during the growth phase. In this stage it is fundamental to concentrate on growing the market share. The product is in a position to quickly obtain market share if it was the first to be launched into the market, whether it was a new market or an existing one. A fresh, expanding market draws the attention of the rivals. The business must display all the product offers and make an effort to set them apart from those of its rivals. An excellent strategy to stop rivals from capturing market share by copying or providing identical products is to frequently modify the product. Licenses and copyrights, product complexity, and a lack of readily available product components are further obstacles.

The aim of market leadership, rather than increasing consumer awareness of the product, is the focus of continuing promotion and advertising, though not to the same degree as in the initial phase. Utilizing outside promotional contractors is often more efficient and helpful, even if the costs are going to grow. However, this is the time to create efficiency, increase product availability, and enhance customer

service, thus, efforts and expenses are worth it. Gaining confidence of the customer is mostly dependent on cost effectiveness, timing in the market, pricing, and discounting practices. Controlling the growth phase is crucial. Sometimes businesses overestimate their market position and put a lot more work into the production process. The production planning process will benefit greatly from accurate forecasts of client demands, as discussed in the previous sub-chapter. Increasing product demand and consumer expectations are useless without a plan for proportional production capacity. A company must avoid overcommitment, otherwise it will lose customers because they will not have their good at the desired time (Ferrero, 2018).

The maturity phase begins when there are too many versions of the core product on the market and every rival has a viable alternative: this happens when the market is saturated. In this stage, market share expansion occurs at the expense of other companies' businesses and not due to the market's own development. Here the company can maximize profits. While a firm that falls short of its market share objective must reevaluate its marketing positioning in the marketplace, one that has reached its market share goal has the most profitable period. Pricing and discount policies are frequently modified in accordance with those of the rivals. For instance, prices can fluctuate in line with those of the competitors, and in the case of consumer goods, discounts and coupons are introduced. The focus of promotion

and advertisement shifts from attracting new customers to differentiating their products in terms of quality and dependability.

A product's withdrawal from the market appears to be a difficult decision to make, and there are many problems to be handled first. The complexity of the decision-making process to remove a product from the market is increased by concerns including maintenance, stock obsolescence, and service competitors' response to fill the market gap. In order to enhance profit margins and progressively deter the "few" remaining devoted customers from purchasing the diminishing items, businesses sometimes maintain high prices for them. A firm may find it challenging to conceive a product's declining signs at times. Typically, a fall in market sales coincides with a decline in a product's sales. Since marketing departments are frequently overconfident as a result of a great success of the product during the mature stage, it might be tricky to realize it. At this point, it is suggested to start removing product variants from the market that have had poor success. Because it is not always clear which product variety generates the most money, this must be done with caution. In order to make the product presence obvious and keep the "faithful" consumer, prices should be kept competitive, and advertising should be reduced. The distribution is constrained: alternative channels should be abandoned while the primary channel should be kept operating efficiently (Ferrero, 2018)..

This sub-chapter has deep dived into the life cycle management of a product, a fundamental process in the product management. However, many aspects differ depending on the type of the type organization models, market size, period, and other factors. In fact, in order to mention one of the above factors, Weitz and Wensley (2002) claim that the organizational structures have a significant impact on how work is carried out. There are numerous different organizational models, from those based on products to those based on markets, technologies, or customer behavior (e.g. Product Management, Marketing, Market management, etc.). The businesses' support, particularly from their top management to product management, is crucial (Haines, 2008). The organization related to new products development, new market introductions and the communication are, without any doubt, more complex when the company competes on a global scale. This is because these companies are more likely to have a team which is distributed throughout the world, where everything takes place remotely, turning it into a virtual team. This form of organizations is expanding rapidly, especially after the pandemic, and many companies are adapting this way of operating, not only the big ones, but even the smaller ones which would have struggled to do this in the past years. Of course, this aspect has both upsides and downsides: these are going to be analyzed in the next chapter.

2. WORKING IN AN INTERCULTURAL, AND VIRTUAL ENVIRONMENT

Among the factors that influence the product manager's role, the previous chapter has mentioned the cross-cultural aspect and the virtual one. This chapter is going to focus on all the advantages, disadvantages and influences that are brought present in such an environment.

Virtual and multicultural teams are groups of individuals who work together from different locations and cultural backgrounds, often using technology to communicate and collaborate. These teams have become increasingly popular as advancements in technology and a globalized economy make it easier for people to work remotely and with colleagues from different cultures. Virtual and multicultural teams can be composed of employees from the same company or a mix of individuals from different organizations. These teams are diverse and flexible, often spanning multiple time zones, cultures and languages. Virtual and multicultural teams can be found in many different industries, including technology, finance, healthcare, and education (Nelson and Barker, 2011).

Sub-chapter 2.1 is going to focus on virtual teams, which are becoming more and more present in today's companies.

2.1 INTRODUCTION AND DEFINITION OF A VIRTUAL TEAM

The end of the first chapter has pointed out how essential it is, among other factors, to have a functional organizational structure. Challenges arise more often when a company operates globally, because this means that it most likely has team members spread around the world and, therefore, virtual teams, so teams composed by people that are spread in different parts of the world that work via technology- However, if this was once a characteristic mainly associated to bigger companies, nowadays, especially with the contribution of the pandemic in boosting the technological infrastructures of companies, even the smaller ones can operate online. Technology, especially ICT, has a big part to play in helping virtual teams achieve their objectives. In fact, with ICT, members from the same company or from different organizations may overcome potential obstacles and concentrate on a worldwide and multi-organizational project or task (Gibson and Cohen, 2003).

When talking about virtual teams, we refer to various factors that are shared by teams that have dispersed members. Firstly, a team, whether it is virtual or not, it has to be composed by a number of persons working on a project or duties that are interconnected; the individuals oversee the group's outcome. Then, regarding a virtual team specifically, various authors suggest different definitions. In fact, even if some authors claim that people who need to work together and are based more than fifty meters apart are a virtual team (Edwards and Wilson, 2004), Hellriegel

and Slocum (2008) note that the members of the team are geographically distributed and frequently severely divided by time, distance, and language, without any specific reference. Finally, the team members use technology-mediated interactions to communicate and collaborate on projects rather than face-to-face encounters. For instance, these activities are made by telephone, e-mail, videoconferences, collaborative design tools, knowledge-management systems etc. Although the teams may occasionally meet in person, they would need technology to complete their task and coordinate their efforts. The team's virtual features become more pronounced as it becomes more dependent on internet communication (Gibson and Cohen, 2003).

Companies can be more flexible about the kind of activities that can be completed by using virtual teams. To this aim, it is anticipated that over time, the knowledge used by these teams will expand and change more quickly than that of co-located teams, which could frequently result in new issues, negotiation, and interpretation attempts (Cohen and Gibson, 2002). The truth is that a virtual team that is designed, managed, and implemented effectively can use the talent from around the world to solve business problems, serve customers, and create new products, which definitely is a positive side, despite the fact that working virtually can be thought of as more complex than working face-to-face (Heimer and Vince, 1998). However, the team is susceptible to failure if its structure, management, or support are

mishandled. Therefore, in order to succeed, businesses must foster the necessary conditions for efficient virtual teamwork.

The effectiveness of communication is a key factor in how well-resourced teams work. Communication gaps and a lack of face-to-face engagement are both potential sources of difficulty, suggest Oertig and Buergi (2006). In order to increase trust between team members and prevent conflicts and inefficiency, face-to-face connection facilitates communication and makes it simpler to develop trust and teamwork attitude (Laroche, 2012).

Although the members of co-located teams could experience a sense of urgency while offering assistance for meetings or responding to questions in person, virtual teams may find it challenging to debate and come to an agreement because of participant availability issues, mainly due to time zones, and varying priority settings. Since virtual teams are typically more task-oriented and exchange less socio-emotional information, there is little informal information interchange in dispersed teams, translating it into a more minimal and efficient communication (Pawar and Sharifi, 2000; Schmidt, Montoya-Weiss, and Massey, 2001). Certain information may occasionally be delayed, missed by remote team members, or lost in communication as a result of technical or human failures (Cohen and Gibson, 2002). Thus, appropriate organizational structures are needed to promote communication and prevent these problems (Ebrahim, Ahmed and Taha, 2009). In presence of a virtual team, both synchronous and asynchronous work is

necessary. Synchronous mode is expected to be simpler and quicker when team members can meet in person or virtually, but it can become problematic when they must start or end their workday earlier or later to communicate and attend meetings. This is given by the fact that, in virtual teams, members from different part of the world will likely have different time zones, and, thus, not everyone may be available at the same moment. This translates into asynchronous work and, consequently, the process required for the same output may take longer (Cohen and Gibson, 2002). In virtual teams, what frequently happens is that the members complain that too much time is spent in meetings simply exchanging information instead of engaging in truly collaborative activities like decision-making or problem-solving. Information is usually spread faster and efficiently in co-located teams than in virtual ones since team members are frequently present when modifications are made. However, it is important to point out that it is not implicit for an international team to be virtual. For instance, certain divisions of multinational corporations have local sections that have a local focus). This could be the case of an European company with the R&D department located in another country, such as China. Different features might be present: there might be global-non virtual teams with members who share the same location, global-virtual team that share only certain tasks from different locations, or teams that share all the processes in a virtual way. With the latter, without any doubt, organization,

communication, and time management are essentials (Steers, Nardon and Sanchez-Runde, 2010).

To sum up and highlight the variations in interaction, working styles, and obstacles between co-located global teams and global virtual teams, Table II.1 compares these two types of teams. It needs to be pointed out though, that the global aspect is included in both varieties. What is clear is that the two different types of teams result into different kind of behaviors in their team members.

Table II.1 Global teams: comparison between co-located and virtual global teams, based on Steers, Nardon and Sanchez- Runde (2010)

| Global team characteristics | Co-located global teams | Virtual global teams |
|---|--|--|
| Team participation and working patterns | Colleagues frequently collaborate close to one another, putting a significant value on face-to-face communication. Building connections and trust are crucial when in-person interactions are feasible, and the decision-making process may vary in terms of time. | Significant importance on virtual communication tools since team members operate independently and from different places. Tasks are well delineated and can be completed autonomously when some actors cannot co-locate. Contextual information from several places is crucial, and confusion must be minimal. |
| Team composition | Heterogeneous, multicultural | Heterogeneous, multicultural |

| | | |
|----------------------------------|---|--|
| Necessary skills for interaction | Focus on intercultural skills | Focus on intercultural and technical skills |
| Main team obstacles | Interacting with others face-to-face, making judgments, and acting in situations where behaviors might vary greatly | Communicating, deciding, and acting in a highly decentralized, frequently virtually, where interpersonal communication style, body language, and eye contact are mainly invisible. Developing cross-cultural understanding and relationships remotely. |

As mentioned previously, without technology, a team cannot achieve great outcomes while working virtually. Synchronous and asynchronous cooperation were, according to Cohen and Gibson (2002), emphasized as two different forms of teamwork in the preceding section. The same classifications may be used to describe the different ways of communication. Synchronous communication is supported through conference calls, video conferencing, and instant messaging (chat), other than face-to-face if the team members share the same location. On the other side, asynchronous interactions are made feasible by using tools like group calendars, e-mail, team groups and chats etc. (Duarte and Snyder, 2006).

The creation of infrastructures and the use of technology to connect scattered members is impacted (and made more difficult) by the structure of virtual teams,

despite being a crucial component in connecting geographically separated operations (Cohen and Gibson, 2002).

The technology employed should be in line with the duties and requirements from the team and evolve alongside the organization and team. Regardless of the degree of "virtuality" of the teams, they depend on information and communications technology (ICT). The amount of reliance on ICT varies depending on co-location levels or the number of stakeholders (Pauleen, 2004). The use of an asynchronous in communication in virtual teams may provide significant challenges because: communication via text messages, such as email, may make it more difficult for virtual teams to build trust. Among the various way of communicating in virtual teams, email is perhaps the most popular form of communication in the corporate world. Emails alone, however, may not always be enough; synchronous live conversation is necessary (Harvard Business School Press, 2010). To this aim, phone or video conferences are frequently used to facilitate and speed up communication and help team members build a stronger relation that would be way more difficult through e-mail only. Even though asynchronous communication gives virtual teams an advantage in terms of flexibility, Cohen and Gibson (2002) found that these teams are less able to network and share information informally (such as by stopping by the coffee spot) and are much more reliant on technology to complete tasks (such as using mobile devices to check email) (Schwalbe, 2013).

Working in a virtual and multicultural team brings both advantages and disadvantages. According to Cascio (2000), the main advantages of virtual teams are:

- Reduced relocation cost and time;
- Lower travel costs;
- Reduced time-to-market;
- Possibility to select the best talents regardless the location;
- Higher level of flexibility;
- Higher knowledge and expertise;
- More accurate record of discussions within the team;
- Quicker adaptation and response to changing business environment.

Regarding the disadvantages, Cascio (2000) and Staples et al. (2006) can be summarized with the followings:

- Lack of physical interaction;
- Lower control of activities and monitoring;
- Difficulties in solving team conflicts;
- Challenges in developing trust;
- Cultural diversity may lead to divisions in the team.

2.2 FACTORS THAT INFLUENCE VIRTUAL AND MULTICULTURAL TEAMS

As anticipated in the previous sub-chapter, virtual teams are affected by different factors that generate challenges in the everyday working operations. This chapter will point out the various aspects that influence virtual teams, including both the positive and negative sides, by also analyzing the intercultural aspect aspects and their consequences.

The factors that affect virtual teams can be categorized into two groups: distance factors (which include geographical, temporal, and perceived distance) and driven by distance (such as the presence or requirement for explicit management in person or the actual nature of work) (Alsharo et al., 2017). Each category has a unique set of difficulties that have a big impact on virtual teams.

One of the main factors is, without a doubt, geographic distance, which, according to Ågerfalk PJ et al. (2005) refers to the amount of "work" required for a colleague to visit a collaborator at that collaborator's place of employment, rather than the actual distance between the two collaborators. Without any doubt, geographic distance presents difficulties for virtual teams.

Instead, temporal distance differs from the geographical distance. According to Ågerfalk (2005), while geographical distance measures the amount of

"work" required for one collaborator to visit another at that collaborator's place of employment, temporal distance is thought of as a directional measurement of the temporal displacement experienced by two collaborators who want to interact with each other. Time zone variations and adjustments in work schedules can also contribute to temporal remoteness. The decreased amount of overlapping work hours across collaborating sites is a major drawback of high temporal distance. While having team members spread across time zones can be, in an ideal scenario, an advantage for continuous project development as each team member works within their respective workdays, sometimes it can, instead, create challenges. This is because fewer overlapping working hours require a higher coordination. For instance, a team member who is needed for his expertise in a certain moment can be unavailable due to different time zones. Moreover, according to research by Bjrn and Ngwenyama (2009), in certain virtual teams, communication would become restricted to colleagues who were temporarily co-located because it was simpler to do so, and this results in omitting teammates who were situated at other sites who should have been included. Due to this unspoken communication, team members would feel excluded from important choices, which was detrimental to the project.

Then, according to Wilson et al. (2008), perceived distance, the third of the distance factors, is determined by a person's perception of how close another person is. Both

an emotive and a cognitive element may be found in these perceptions of closeness. The emotional component here deals with the notion that a person's perception of proximity is not solely conscious or logical but rather is influenced by emotions. The cognitive component instead refers to a mental assessment of how close or far a virtual colleague seems. Spatial and temporal distance are two very independent concepts, and perceived distance is not always connected to either. Instead, it is believed that perceived distance has a bigger impact on relationships within a team than actual closeness since it is the "symbolic meaning" of proximity.

Through the comparison of synchronous interactions conducted over the course of more than ten years of research, Olson and Olson examined these difficulties by comparing distant and co-located activities (Olson and Olson, 2000). The main challenges that the authors have found through years of analysis are the following:

- Motivational sense of presence of others;
- Awareness of colleagues and their context;
- Trust is more difficult to establish;
- Presence of intra-team conflicts;
- The level of technical infrastructure;
- Nature of work;
- Explicit management;

- Socio-cultural distance and work culture.

These factors can be defined as driven by distance. By going more deeply in some of the challenges pointed out by Olson and Olson (2000), firstly, it comes out that people show a tendency to work harder when they are not alone, which is one of the benefits of the motivating experience of others' presence. Collaboration is further complicated by the fact that these impacts are more difficult to identify and foster in remote work. In a similar line, a major obstacle to cooperation is the challenges of keeping track of collaborators' work progress from faraway places without being able to, for instance, casually walk past their desk. Co-located employees have greater opportunity to interact with a simple conversation, which can help raise awareness of what is going on. These sorts of visual observations and informal chats that create awareness are prevented by distance (Armstrong, Cole, 1995). This is crucial, since employees want to be aware of who is sharing their workspace and rely on the presence of certain coworkers to direct their work. Furthermore, since virtual team members cannot see each other striving for work, they are more likely to rely on perceptions and assumptions that may be skewed and inaccurately negative. In addition, because virtual teams rely on technology to communicate, team members might leave the group owing to a diminished social influence and connection in circumstances where disengagement is not immediately obvious, being online and not in the same room. As members of a virtual team grow

increasingly isolated, their contributions and involvement with the team could decline, having an impact that is usually negative (Carte and Chidambaram, 2004).

Then, regarding awareness, the definition for it given by Dourish and Bellotti (1992) is "a comprehension of the actions of others, which gives a framework for your own activity." In addition, Dourish and Bellotti (1992) claim that this context is essential for ensuring that each member's contributions are consistent with the group's overall activity and that it is crucial for evaluating each individual's activities in light of the objectives and development of the group. People are further enabled to minimize duplication of effort in this situation. Without such knowledge, collaborative work can be delayed. Furthermore, regardless of the area, awareness is a necessary condition for organizing group activities. However, many computer-based methods have recently been created to help remote employees keep awareness of their colleagues. According to research, adopting technologies that let virtual team members know when to expect one other's contributions and activities may enhance team coordination and learning. Systems that offer team members instantaneous visual feedback on their actions can be utilized as tools to reduce different forms of "process-loss" in teams, such as team effort. Glikson et al. (2009) created a tool for visualizing effort that determined effort based on the quantity of inputs on the keyboard that team members entered in a workspace for task collaboration. They discovered that teams with a low number of extremely

conscientious individuals performed better and put out more effort as a result of using the visualization tool. Instead, teams with a large percentage of members who exhibit high levels of diligence were exempt from this impact.

Regarding the difficulties that can be found in establishing trust in virtual teams, a definition of trust must first be given. Cummings and Bromily (1996) define trust in a work environment as the employee's faith in their team to:

- make a good-faith effort to behave in accordance with any commitments both explicit and implicit;
- is honest in whatever negotiations preceded such commitments;
- does not take excessive advantage of another even when the opportunity is available.

Thus, trust is also an essential factor in teams, especially the virtual ones. This also applies to the performance of teams, since trust affects how often team members solicit assistance, offer feedback, and address problems and disagreements. Team trust is the "glue" that ties projects together and has a substantial impact on team performance. Developing personal relationships with collaborators and mutual trust is indeed more crucial to a successful cooperation than resolving technical problems. Furthermore, trust is crucial in virtual teams since these collaborations

often include shallow, impersonal, and uncertain technology-mediated exchanges (Lowry PB et al., 2010).

Due to a number of factors, such as the absence of strong interpersonal bonds that characterize co-located teams, the inability to have in-depth personal interactions in the absence of nonverbal cues, and the difficulty in determining the intentions of others, trust is more challenging to establish and maintain in geographically dispersed collaborations. The frequency of encounters, which is lower in virtual teams, is another factor that affects trust (McDonough EF et al., 2001). In co-located teams, trust grows in a linear sequence; in virtual teams, it grows in an ad hoc, unexpected way. Collaboration suffers because of this trust issue, which also increases risk of deterioration of task coordination and cooperation, decreased desire to communicate, systematic inability to deal with unstructured tasks and uncertainty. Fewer members are willing to take the initiative, there is a lack of empathy for teammates, and finally a lower number of feedbacks from collaborators. These problems have a negative impact on cooperation and might cause a project's development to be delayed or even stopped (Olson and Olson 2006). Some authors agree with Olson and Olson, proving that the lack of face-to-face communication and body language tends to create delay and insecurity in worker's decision about – for instance – trust a new collaborator (Bos, 2002).

Another issue related to geographically dispersed teams can be intra-team conflicts. Three types of intra-team conflict that occur frequently are: affective (interpersonal), task-based, and process-based (for instance, related to a member's responsibility and delegation of tasks). According to Hinds and Mortensen (2005), who have analyzed the types of conflicts within co-located and geographically dispersed teams, the latter experience a higher degree of intra-team conflict. Geographically dispersed teams in particular are more prone to interpersonal and task-based conflict. There is some proof that disagreement affects distant teams differently than co-located ones, in a more extreme and detrimental way. Furthermore, conflict in remote teams is known to escalate and frequently goes unnoticed and unresolved for extended periods of time, which translates into delays in work progress. Also, as previously mentioned, assumptions and improperly perceived messages usually result in conflicts. Additionally, Armstrong and Cole (1995) noted that, regardless of the group to which the workers were allocated, the word "we" was frequently employed to refer to co-located employees. This certainly does not guarantee a healthy environment in a team.

Considering the other factors that were mentioned, nature of work also plays an important role here. To give a bit of context, there are two types of work: loosely coupled and tightly coupled. Tightly coupled work demands frequent, rich communication and is typically non-routine; it strongly relies on the abilities of

groups of employees with extremely interdependent components. As opposed to tightly coupled work, loosely coupled work is often routine or has fewer dependencies. Due to cultural differences and geographic and temporal distance, managing tightly coupled work presents more difficulties for virtual teams. Interdependent (strongly connected) work is highly challenging to do remotely since it necessitates a significant amount of engagement and negotiation. However, loosely coupled work requires less communication than tightly coupled work, making it simpler to execute at geographically far locations (Olson and Olson, 2000). Thus, because virtual teams sometimes dissolve when a work is finished and rely heavily on virtual technologies, complex, closely connected projects may be more challenging.

Then, the management of a team is another of the biggest problems virtual teams have. To ensure a project's success, explicit supervision is required for remote, collaborative work. Collaboration projects are seen to be challenging to manage, especially as the project's workforce grows. Geographically separated teams have leadership challenges because successful leadership depends heavily on high-quality interactions, which are more problematic across distance (Pe Narroja et al., 2017). To increase team performance, it is crucial for leaders to build bridges between co-located and remote team members. By participating in behaviors like early face-to-face meetings, leveraging rich communication channels, and

promoting synchronous information flow, leaders may increase trust within virtual teams. Within virtual teams, high levels of dependable communication between team leaders and members are favorably correlated with trust and engagement (Gajendran RS. et al., 2015).

Finally, the socio-cultural distance is a factor often present in geographically dispersed and virtual teams, which can highly influence the way a group of colleagues work. Geographically dispersed teams are recognized to have greater sociocultural diversity than those that are co-located, since distance tends to boost demographic heterogeneity. Diverse cultural origins among virtual team members are likely to result in different behaviors on the teams, particularly how they engage with one another. The cultural makeup of a virtual team is the most important indicator of the team's performance for these and other reasons (Swigger et al., 2004). The performance of teams is significantly impacted by socio-cultural distance, which is linked to higher conflict levels, as well as poorer levels of satisfaction and cohesiveness. According to Hardin et al. (2007), some cultures are more receptive to work in geographically dispersed situations because of their levels of self-efficacy attitudes regarding virtual teaming. Collectivist cultures prioritize the needs, ideals, and objectives of the group over those of the individual. Moreover, those cultures in virtual teams tend to be less inclined to employ CMC (computer mediated technologies). Collectivist teams typically choose for

synchronous techniques that offer high relationship-related informational value when adopting CMC technology. Individualist cultures prioritize the needs, convictions, and objectives of the individual over those of the group, in contrast to collectivist ones. High degrees of individuality in virtual teams make them more inclined to employ CMC tools, especially ones with plenty of task-related informational value and a preference for asynchronous work. Additionally, team members from individualist cultures are seen to speak more clearly, honestly, other than being more inclined to develop trust in a shorter time (Kramer et al., 2017).

Thus, the complexity brought on by the cultural and contextual disparities among those team members adds up to the challenges of managing the work of employees who are not co-located. When team members must deal with cultural diversity, various languages, communication issues that can be perceived as a typical team issue for coworkers who are physically present in the same place are magnified (Ebrahim et al. 2009). When a second language is made the official business language, this might lead to psychological distancing and worries about information being misapplied, miscommunicated, or misinterpreted. Because of this, there is frequently a greater impression of danger, which raises the ambiguity and complexity of the information being transmitted (Steers et al., 2010).

Culture in the workplace is a problem that affects both individuals and society. The significance of corporate culture and the effects it has on the workplace environment must be emphasized. The beliefs and behaviors that make up an

organization's culture determine its working environment and way of life. The organization's ideals, philosophies, and expectations - which are reflected in how it appears and interacts with others - keep it cohesive. The common characteristics of the organization, such as attitudes, values, and rituals, as well as accepted norms, form the foundation of its culture. The concept of organizational culture may be divided into two categories: co-created by individuals and defined by the company (De Witte and Van Muijen, 2000).

According to Deal and Kennedy (1982), an organization's culture is considered solid when the majority of its employees share its core views and values. This depends on organizational characteristics including size, age, employee turnover, and the strength of the original culture. Most businesses have moderate to strong cultures, which are mostly passed down and learned by employees through oral traditions, rituals, tangible symbols, and language. Deal and Kennedy (1982) contend that a poor organizational culture is directly related to situations in which employees are subjected to rigid regulations, which may lead to differences between an individual's own goals and those of the business.

After having summarized the most impactful factors that affect the virtual and multicultural teams, the aim of the next chapter is to understand how the corporate culture, the virtual nature of product teams, and the cross-cultural aspect of those teams affect the product management. The investigation will be based on a variety

of sources, including, mainly, a survey conducted through a multinational company, by questioning various members of product management teams which are considered both virtual and multicultural.

3. PRODUCT MANAGEMENT: ANALYSIS IN MULTICULTURAL AND VIRTUAL TEAMS

The first chapter aimed to give a thorough understanding of product management, starting from the main functions, the challenges that a product manager can encounter and then by going more deeply in the strategic role. The second chapter focused on the characteristics of virtual and cross-cultural teams, which are spreading around many companies nowadays and, thus, affecting many roles, including product management. This chapter is going to combine the two topics, and the goal is to gather information and different points of view regarding the role of a product manager in an intercultural environment where virtual teams are common.

There are several challenges that come with product management in cross-cultural and virtual teams in an international setting. It can be complicated for virtual teams to collaborate effectively because of cross-cultural variances in communication methods, work habits, and expectations. And this brings important obstacles, because product management is a position where many different people and departments need to pass through: it is one of the central points of the organization. Additionally, teams working virtually frequently lack the chances for in-person engagement and unplanned collaboration that are accessible to teams working in

the same location, as mentioned in the previous chapter. The fact that product managers must traverse a difficult and dynamic worldwide commercial environment only serves to exacerbate these difficulties. However, product management can be extremely successful and efficient in cross-cultural and virtual teams in an international setting, despite these difficulties. Product managers must be proactive in overcoming the difficulties of cross-cultural and virtual teaming if they are to succeed (Alsharo et al., 2017). In order to do this, it is necessary to establish clear processes and standards for decision-making, use technology to promote communication and collaboration, and make sure that team members are all aware of their respective duties. Product managers must also have a thorough awareness of the cultures and business processes of the nations in which they operate in order to manage cross-cultural and virtual teams effectively. (Nelson and Barker, 2011).

This also requires a high degree of cultural sensitivity and an ability to adapt to changing circumstances. Product managers must be able to build trust and establish strong relationships with team members who may be located in different parts of the world, and must be able to communicate effectively across different languages and time zones. Effective product management in cross-cultural and virtual teams also requires a strong leadership style. Product managers must be able to motivate and engage team members, and must be able to create a shared vision for the product that inspires and motivates the team. They must also be able to make difficult

decisions and resolve conflicts in a fair and effective manner. Finally, it is important for product managers to stay up-to-date with the latest trends and best practices in cross-cultural and virtual teamwork. This may involve attending training sessions, participating in online forums and discussions, and reading relevant research and case studies. By staying informed and continuously improving their skills and knowledge, product managers can ensure that their cross-cultural and virtual teams are highly effective and efficient (Moenaert et al., 2000).

The next sub-chapter will present a study with the aim of gathering information through a survey conducted between numerous participants that are currently employed as product managers in a company that operates internationally, where teams are mainly virtual and cross-cultural. This will help understand the way product management is influenced by these factors and will point out the common advantages and disadvantages in each particular situation.

3.1 GOALS AND METHODS OF THE STUDY

The main purpose of this sub-chapter is to investigate how the organizational structure of the company affects the productivity and performance as well as how the team's interculturality and its virtual nature affect the product management. This will be done by conducting a survey in a multinational company where different multicultural and virtual teams are present and operate in different categories of the same business area.

The purpose of this survey is to delve into the complexities of working in virtual and cross-cultural teams in the field of product management. The survey aims to gain a deeper understanding of the experiences and challenges faced by product managers when working in virtual and cross-cultural teams, by exploring the perceptions and attitudes of product managers towards virtual and cross-cultural teamwork. The results of this survey will provide valuable insights into the challenges and best practices of virtual and cross-cultural teamwork in product management. Moreover, the findings will play a critical role in improving the understanding of virtual and cross-cultural teamwork in product management, and help organizations better navigate this complex and rapidly changing landscape.

The survey was addressed to 41 product managers. Out of 41 people, 28 have completed the questionnaire, and the results have been analyzed in order to have a more thorough insight about the topic. The questions that were present in the survey are the following:

- What is your age?
- What is your nationality?
- From which country are you working?
- What is your highest level of education?
- How long have you been in your team?
- Is this the first time that you are working in a cross-cultural and virtual team?
- What is the degree of multiculturalism of your team?
- How comfortable are you working with people from different cultural backgrounds?
- What is the most common way of communication in your team?
- How often do you communicate with the members of your team?
- How satisfied are you with the communication tools and technology used by your virtual team?
- Have you ever experienced any misunderstandings or conflicts due to cultural differences in the team?
- How often do you feel the need to adapt your communication style to work effectively with team members from different cultures?
- How well do you feel your virtual team members collaborate and work together?

- Would working in the same room with your teammates make your tasks easier?
- Do you consider yourself part of a team?
- How do you feel about the level of trust and accountability within your team?
- Is the “team spirit” encouraged in your organization?
- Which are the most impactful advantages of a virtual and cross-cultural team?
- Which are the main disadvantages of a virtual and cross-cultural team? (You can choose more than one answer)
- How satisfied are you with the overall experience of working in a virtual and cross-cultural team?
- What could be improved in your team?

3.2 FINDINGS

The aim of the first stage of the questionnaire was to identify the participants' profiles and those of the organizations into which they were working. Moreover, data on the degree of multiculturality and virtuality of the teams were gathered. These two levels were predicted to result in distinct working styles and levels of satisfaction for the employee.

The survey was sent in the company to 41 product managers, and the results show that, among 28 product managers who have completed the survey, 35,7% is between 18 and 23 years old, 35,7% is between 24 and 29, 10,7% is between 30 and 35, 10,7% is between 36 and 41 and 7,1% is older than 42 years old. The company, indeed, has many young professionals.

Then, we investigated in the nationality of each of the participants. As anticipated, the company is quite diversified in terms of nationality. It turns out, according to the answers, that the dominant nationality is Italian, with 17,9%, followed by Bulgarian and German with 10,7%. The below table III.1 displays the complete results.

Table III.1 – Nationality of participants – Survey results.

| Nationality | Percentage | #People |
|--------------------|-------------------|----------------|
| Brazilian | 3,6% | 1 |
| Bulgarian | 10,7% | 3 |
| Chinese | 3,6% | 1 |
| Czech | 3,6% | 1 |
| Danish | 3,6% | 1 |
| Dutch | 3,6% | 1 |
| Dutch/Turkish | 3,6% | 1 |
| Finnish | 3,6% | 1 |
| French | 3,6% | 1 |
| German | 10,7% | 3 |
| Greek | 7,1% | 2 |
| Hong Kong | 3,6% | 1 |
| Indian | 3,6% | 1 |
| Indonesian | 3,6% | 1 |
| Italian | 17,9% | 5 |
| Peruvian | 3,6% | 1 |
| Russian /Dutch | 3,6% | 1 |
| Turkish | 3,6% | 1 |
| Vietnamese | 3,6% | 1 |

The country from which the participant was working from is definitely an important aspect to take into account. According to the answers given, 67,9% of the participants (19 of the 28 participants) work from The Netherlands, followed by the 7,7% (2 of the 28 participants) from Hong Kong. The rest is equally spread between Brazil, Czech Republic, Germany, Greece, Italy, Norway and Sweden.

Among the participants, the 46,4% has obtained a Bachelor's degree, 42,9% has a Master's degree, and the remaining 10,7% is represented by graduates.

It is clear that, many different nationalities and, thus, cultures, were present among the participants. This was important, in order to guarantee an interesting and accurate insight, given the wide diversity of the interviewees. Even if one nationality is dominant, many others are present, with a total number of 18 nationalities. Moreover, it was important to have participants who work from different countries, and this requirement was satisfied. Indeed, the participants work from 11 different countries. Here, however, the vast majority work from The Netherlands.

Then, questions regarding the team the participant is working in were asked.

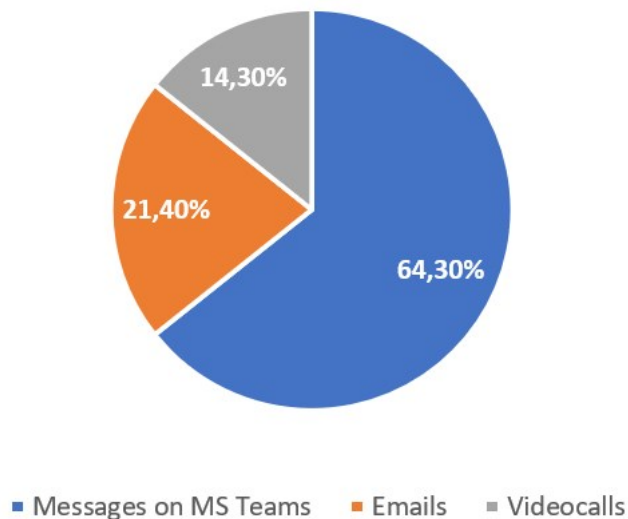
Firstly, the 53,6% of the participants has been in the team from less than a year, 32,1% from 1-2 years, and 14,3% from more than 2 years. Moreover, for the 75% of the participants, this is not the first time they are working in a virtual and multicultural team. This shows how many, among the participants, are already familiar with teams that are virtual and multicultural. However, a considerably large part of the participants is at their first time dealing with such factors. This gives us a variety that helps understanding the topic from different points of view. Then, information regarding the degree of "multiculturality" of the teams were collected. According to the answers, 85,7% of the participants work in strongly multicultural

teams (more than three different cultures in the team). Only the 7,1% of the participants works in a team where one culture is dominant. This confirm that the participants chosen match the requirements for this survey: gather insights from product managers who work in multicultural and virtual teams.

In the following part of the survey, relevant information regarding communication in the team was collected. According to the response, 64,3% of the participants consider messages on MS teams as the main way of communication within the team, followed by emails (21,4%) and videocalls (14,3%), as shown in Figure III.1.

Figure III.1 – Means of communication – Survey results.

Means of communication

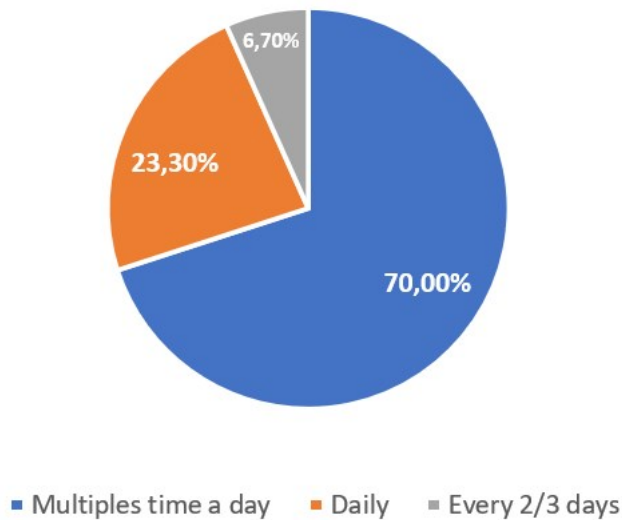


In fact, for most of the quick communications, simple messages turn out to be the most conventional way to interact. Emails are usually used for more important messages, in order to have the conversation in the archive. Usually, messages are not used for important communications. Then, videocalls appear to be the best way to communicate when there is the need of interaction. It is avoided for simple communications, that is why the percentage is lower. Talking to a person will always be the most appropriate way to attract the other people's attention, brainstorm together and solve issues. These things cannot be done via email or messages.

Regarding the frequency of communication, 67,9% of the participants reach out to other members of the team multiple times a day, 25% communicates daily and 7,1% every two or three days as seen in Figure III.2 below.

Figure III.2 – Frequency of communication – Survey results.

Frequency of communication



This aspect depends on the team: there are some members of the same team that, for some reasons, must communicate more often with other colleagues, and at the same time, communication is less frequent for other members.

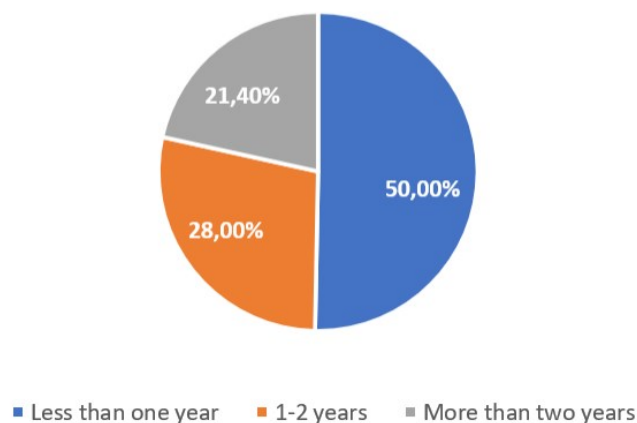
Apparently, the participants are quite satisfied with the communication tools: 53,6% of the interviewees has chosen 4 in a scale that goes from 1 (very dissatisfied) to 5 (very satisfied). Especially after the pandemic, the incredible development in technology and the need to work remotely has boosted the infrastructures of the

companies. This allows organizations to have teams with the members spread across the world, without significant obstacles and negative effects on the overall performance.

However, 42,9% of the participants has experienced misunderstandings or conflicts due to differences in the team. Misunderstandings are likely to happen especially at the beginning. When a new member joins, it could be challenging for him/her to fully understand how to approach other colleagues, especially if they are from different culture, thus, with different communication standards. Indeed, in the following question, an interesting aspect that came out is that, from a scale that goes from 1 (never) to 5 (always), the 53,6% has answered with 4, to the question “How often do you feel the need to adapt your communication style to work effectively with team members from different cultures?”. To confirm what is written above, among the 14 people who confirmed they experienced difficulties and conflicts and misunderstandings due to cultural differences, 50% (7 people) has been in the team for less than a year, as displayed in Figure III.3 below, meaning that such challenges usually occur more frequently in the early stages.

Figure III.3 - People who have experienced conflicts and misunderstandings due to cultural differences, based on how long they have been in the team – Survey results.

People who have experienced conflicts and misunderstandings due to cultural differences, based on how long they have been in the team



This highlights how, often, it is necessary to adapt the way you approach other members of the same team when more cultures are involved, and you are behind a screen. Different cultures have different standards and behaviors so, it is appropriate to always take into account these differences, which can be more significant depending on the team. Usually, as time goes on, each member will be more familiar with these characteristics and communication will run smoothly.

The following part of the survey focused on each member's perception of the team they work in. First of all, the 60,7% is very comfortable in working online and with people from different cultural background. The fact that many participants have

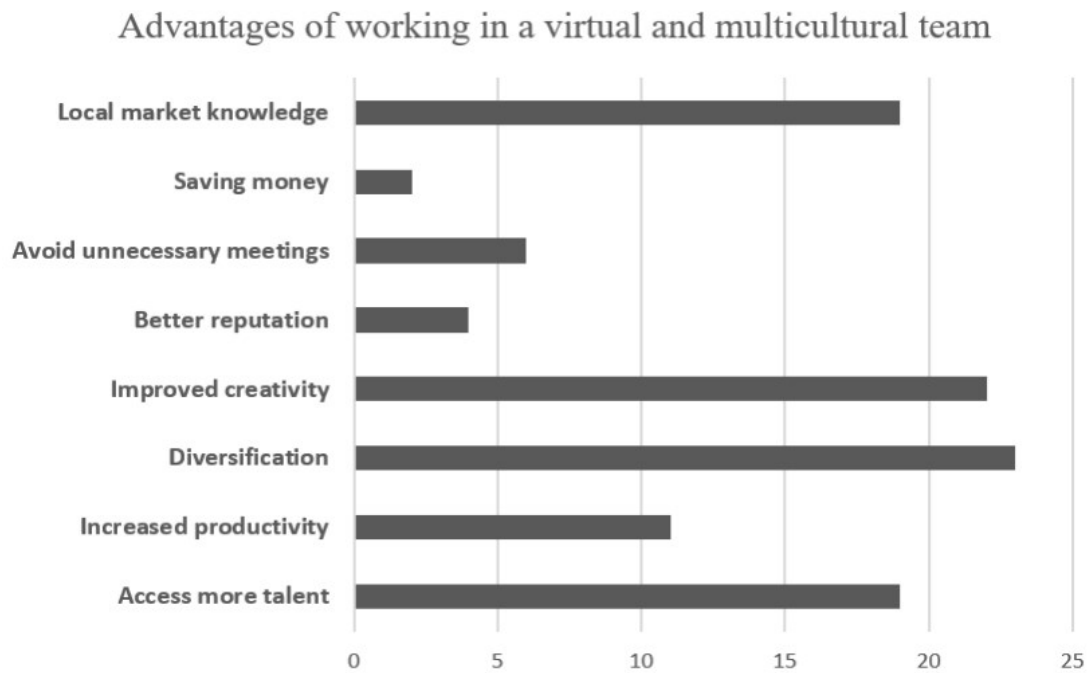
already had experience in these kinds of team has definitely influenced the answer. These people already know how to approach a diversified team and are used to work and interact with people that are not sharing the same location and that belong to different cultures. The more a person has lived in different countries and worked with multicultural teams, the easier it is going to be for him/her to fit. Nowadays, luckily, people are becoming more open-minded, and diversification is seen as a positive thing. Therefore, people are excited to be in diversified team, so that they can learn by seeing things from different points of view and enrich themselves, from a working and personal perspective.

By proceeding with the questions, it comes out that the majority (60,7%) considers themselves part of a team and believes that the level of trust and accountability within the team is very high (67,9%). Moreover, 60,7% of the participants believes that “team spirit” is encouraged in the organization, which is an important aspect that has been analyzed in the previous chapter. These are all relevant findings, since they point out how people are comfortable working via online platforms and in multicultural teams. Even though, building relationships could take longer and might be more challenging at the beginning, the results show how, with most of the participants being in the team since one to two years, it is not a relevant obstacle, especially when the right values are shared among the team and from the organization itself.

Another important response that came out from the survey, is that the majority of the interviewees (42,9%) holds to be true that working in the same room would make the tasks easier, even though the 42,9% of the participants in the survey chose 5 on a scale from 1 (very poorly) to 5 (very well) for the question “How well do you feel your virtual team members collaborate and work together?”, which translates into almost half of the participants being very satisfied about how they collaborate with their virtual team members. In certain situations, it does make it easier to be in the same room. For instance, when the team members need to help each other, it can be easier and quicker if they sit next to each other. Also, when brainstorming, some people would rather be face-to-face. What does not help, in certain circumstances, is when people keep their camera off in meetings: sometimes, having the face of your co-worker in front of you, even if it is not in the same room but on the screen, can be beneficial. However, technology is already doing an incredible improvement on this aspect and is offering many possible solutions in order to offer a more efficient way of communication within a team.

The aim of the following two questions was to gather an insight about the most impactful advantages and disadvantages that the participants find in working in a virtual and multicultural team. Here, the participants could select more than one option. The below figures III.4 and III.5 display the results.

Figure III.4 – Advantages of working in a virtual and multicultural team – Survey results.



The results show that diversification and improved creativity are the main advantages pointed out by the participants, along with local market knowledge, which is essential for product managers, and access more talent. As underlined in the previous chapter, these factors are considered as major benefits for these kinds of teams. Accessing a wider pool of talent and having a higher level of market knowledge can guarantee a higher degree of competences and knowledge that are fundamental to expand the business and bring the product to more countries as fast as possible, in the most efficient way. According to Laroche and Yang, 2014,

accessing a wider pool of talent refers to the ability to recruit individuals from a variety of cultural backgrounds, each with unique skills, perspectives, and experiences. This variety of viewpoints can contribute new perspectives to problem solving and decision-making, resulting in more creative and efficient solutions.. Additionally, having a multicultural team can help to break down barriers and foster more inclusive and respectful workplace culture. This also translates into having a better market knowledge, because a multicultural team can provide insights into different cultures, languages, and customs, which can be useful in developing products and services that are relevant and appealing to diverse customer segments. For example, a company that operates globally could benefit from having team members who are familiar with local markets and can help to adapt products and marketing strategies to meet the specific needs of those markets.

Figure III.5 – Disadvantages of working in a virtual and multicultural team – Survey results.

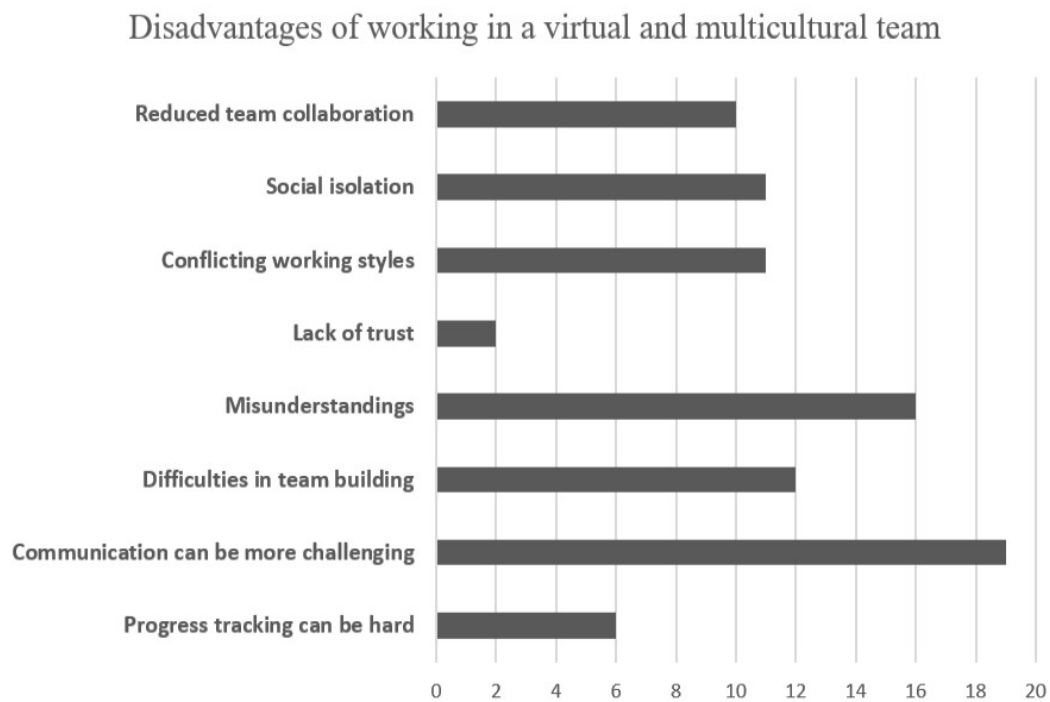


Figure III.2 highlights the challenges in communication (due to different time zones and no face-to-face communication) and misunderstandings as most impactful disadvantages when working in a virtual and multicultural team. Other relevant negative sides would be, according to the results, challenges in team building, conflicting working styles, reduced team collaboration and social isolation. Differences in time zones, as explained in the previous chapter, can have both a positive side and a negative side. If on the one hand, it could be an advantage for continuous project development as each team member works within their respective

work hours, on the other hand it may be a challenge, since a person can not be able to reach out to a specific colleague who is in another country, due to the fact that, for instance, it could be night for the colleague. For urgent issues, this can result into a slow-down in the process and might cause problems. Then, misunderstandings can occurs in all the teams, but especially here, since part of the communication is done behind a screen, they can occur more frequently. Finally, difficulties in team building are worth to be mentioned, because when a team is created virtually and with member that are far culture-wise, it is not that simple to develop relationships and really get to know your teammates, their personality and the way they work. However, this is a problem that occurs in the initial phase and tends to decrease as time goes on. What helps here, can be team building events that gather all the people, with the aim to create connections that are not straightforward in a virtual environment. In contrast to the previous chapter, where lack of trust was considered by many authors an important negative factor for multicultural and virtual teams, the survey shows that, in this specific organization, this is not the case. This could be addressed to the values shared from and within the organization, which play, without a doubt, an essential role in avoiding situations where members do not trust each other. A company's culture is very important, because it influences the people that work for it. Therefore, if positive principles and morals are spread withing the organization, the probability that a team will not face problems related to the lack of trust is higher.

In the last part of the survey, feedback regarding the overall experience of working in a virtual and multicultural team was asked. On a scale from 1 (very dissatisfied) to 5 (very satisfied), the 46,4% of the participants selected 4, while the 42,9% selected 5 and only the 10,7% selected level 3. Thus, the majority is very satisfied. This confirms that the overall experience is positive, and when the right values are shared among the organization, this whole approach brings benefits.

Finally, participants were asked to point out something that could be improved in the team. These are the suggestions provided:

- More team building events;
- More face-to-face meetings;
- Interact (call or face-to-face if possible) with a dedicated session when stuck on emails with too much back and forth;
- More company events to gather the whole organization together;
- Provide more feedback;
- Increase communication;
- Boost agile and communication tactics, because they can mitigate any issue related to time zones;
- Improve the quality of communication (clear expression with no assumption to minimize cultural differences and misunderstandings).

The main outcome from this last question is that team building events are, without a doubt, one of the best ways to create connections among the team. Meeting in person will always be more effective than a simple videocall. This, of course, cannot be done frequently, but having a team event once or twice a year that gathers all the colleagues from different parts of the world can definitely contribute to strengthen the team spirit. Then, what is essential in a virtual and multicultural team, is to have a high level of communication. This means clarity, avoid assumptions and prejudices and adapt when necessary. In this way, misunderstandings will be less frequent, and the activities can run smoothly and more efficiently. Then, increasing agile communication will definitely improve the way a team works. However, nowadays, most of the organizations already have adequate infrastructures and technology that allow certain operations that could not be possible years ago. This aspect though, is going to improve and improve with the development that is running within technology. Finally, one aspect that could be underestimated but is key, is feedback. Feedback is always useful. In the situations that can occur when working virtually or with people that might have different behaviors and standards, providing feedback will always help improve communication, process, relations and thus, guarantee a greater outcome.

CONCLUSION

The aim of this elaborate was to investigate the position of a product manager in an international environment by analyzing various factors that can influence the role. The first chapter delved into the complexities of product management, exploring the duties and responsibilities of a product manager. In the second chapter, virtual and multicultural teams were analyzed, highlighting both the positive and negative aspects of working in such an environment. Finally, the third chapter of this thesis focused on a deeper understanding of the topic, by examining the results of a survey conducted in a multinational company spread worldwide, with the participation of product managers being part of teams composed by members of different nationalities that conduct many tasks virtually. The outcome provided valuable insights into the real-world challenges and opportunities faced by product managers working in virtual and cross-cultural teams, since it allowed us to understand from various points of view (participants were people who have been in the team for longer, people who just joined, people with completely different nationality, different age etc.), how is it for a product manager to work in a team with such characteristics.

What came out from this elaborate, is that product management in an international environment can present both challenges and advantages that must be considered by organizations and product managers themselves. The role of product

management requires effective collaboration and communication across teams, departments, and locations. With the increasing trend of remote work and globalization, virtual and multicultural teams have become a norm in product management and in organizations more broadly. While virtual and multicultural teams bring a unique set of complexities, including difficulties in communication, team building, and conflicting working styles, they also offer significant benefits. One of the main advantages of virtual and multicultural teams is diversification, as proven by the results of the survey. Product managers can access a wider pool of talent, skills, and perspectives, leading to increased creativity and innovation. Moreover, local market knowledge and cultural insights can be leveraged to inform product development and go-to-market strategies, other than helping organizations to better understand and meet the needs of customers in different regions and cultures, which is fundamental to bring the product in different countries in the most efficient way. However, the challenges of managing virtual and multicultural teams should not be underestimated. As pointed out in the outcome of the survey, communication barriers, misunderstandings, and conflicting working styles can all impact the success of product development and management. It is important for organizations and product managers to understand the unique challenges of working in virtual and multicultural teams, and to develop strategies to overcome these challenges. In light of these findings, it is crucial for a company to provide support for product managers working in virtual and multicultural teams. This

support can come in the form of training, resources, and tools to improve communication and collaboration, as well as flexible working arrangements to accommodate different time zones and cultural preferences. Additionally, regular team-building activities and opportunities for face-to-face interaction can help build strong relationships, foster collaboration, and reduce misunderstandings. Indeed, this aspect turned out to be the most impactful one for the participants. Most of them believe that, in order to build solid relationships within the team and, thus, work more effectively, it is necessary to organize events that gather people who live in different countries, but work in the same team.

In conclusion, the role of product management in an international environment is complex and constantly evolving. By embracing the benefits of virtual and multicultural teams and developing strategies to overcome the challenges, product managers and organizations can achieve success in today's fast-paced, global business landscape. The findings of this study emphasize the importance of effective product management in a global context and highlight the need for organizations to provide support and resources to product managers working in virtual and multicultural teams. Overall, product management in an international environment requires a unique set of skills and abilities, but the rewards are numerous and significant. By embracing diversity, fostering collaboration, and leveraging technology, product managers can overcome the challenges and unlock the full potential of working in a virtual and multicultural team.

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