ISCTE Business School
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IN-COMPANY PROJECT: CORPORATE INNOVATION WITHIN A NATIONAL POSTAL COMPANY WITH ALMOST 500 YEARS

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Abstract

The main purpose of this project is to understand how companies can build an efficient relationship model with the startup ecosystem through corporate innovation by following a service design thinking model.

In this case, the model will be applied to CTT – Correios de Portugal, the unique startup created in Portugal with almost 500 years of existence and recognized internationally for the quality of the service provided and for the innovative character, having won a few awards during the years, such as Excellence Brand of 2018 and Trusted Brand of 2018, both awarded by Superbrands.

Porter (1992) argue that corporate innovation it is a success factor that contributes to competitive advantage. In a sector that is facing numerous challenges, such as dematerialization and digitalization of services, which contributes to the decrease of mail that, according this CTT's Annual Report from 2017, is still the service that underwrites the most for CTT's operating income (71%), CTT seeks to find scale up solution to reinvent its business in order to optimize their processes and minimize costs.

Although corporate innovation faces serious financial constraints (Hsu *et al.*, 2014; Cornaggia *et al.*, 2015) startups can be the missing piece to find scale up solutions. Typically, a startups ecosystem has the agility that corporate companies don't have – from one side corporate companies have resources, scale and implemented process while startups, usually, have the willingness to take risks and the will to have a rapid growth. (Weiblen & Chesbrough, 2015).

This relationship is proven, through a study conducted by Gust (a platform for provision and management of investments) named *"European Accelerator Report 2016"*, which affirms that there is a trend of acceleration programs with startups in Europe. As the same

study mention, this trend could be justified, in one hand, because companies are beginning to discover that accelerators are an efficient and effective way to increase engagement with startups and, on the other hand because companies, typically, have limited skills which increases the demand of outsourcing services.

At last, this study takes in consideration, a study, from CTT, conducted to 47 postal operators and 25 Portuguese's companies, that already have built a relationship model with the startup ecosystem, aiming to get information and knowledge about how international postal companies and Portuguese companies, from different sectors, are building their relationship with startups ecosystem; and additionally, a survey, from CTT, sent to a data base of 500 startups, with a sample of 47 answers, to better understand their needs in the decision-making process of a potential business partner.

These studies will help finding and tuning a proper solution for CTT, aligned with not only CTT's main objectives and return goals but also with startups needs.

Hence, this project aims to find and propose an implementation plan for a new relationship model with startups for CTT, expressing the key elements for the success of the solution and the estimated costs and potential returns.

Keywords – Innovation, Corporate Innovation, Culture Innovation, Startups, Service Design Thinking

JEL Classification: M13; O31

Resumo

O principal objetivo deste projeto é entender como as empresas podem construir um modelo eficiente de relacionamento com o ecossistema de *startups* através da inovação corporativa, seguindo um modelo de *service design thinking*.

Neste caso, o modelo será aplicado aos CTT - Correios de Portugal, a única *startup* criada em Portugal com quase 500 anos de existência e reconhecida internacionalmente pela qualidade do serviço prestado e pelo seu carácter inovador, tendo ganho alguns prémios durante os últimos anos, como são exemplo os prémios Marca de Excelência 2018 e Marca de Confiança, ambos entregues pela *Superbrands*.

Porter (1992) afirma que a inovação corporativa é um dos fatores que contribui para melhorar as vantagens competitivas de uma empresa. Num sector que enfrenta inúmeros desafios, como a desmaterialização e digitalização dos serviços, que contribuem para a diminuição do correio que continua a ser o serviço que mais peso tem no rendimento operacional dos CTT (71%), os CTT procuram encontrar soluções escaláveis, reinventando os seus negócios de forma a otimizar processos e minimizar custos.

Embora a inovação corporativa frequentemente enfrente uma séria de restrições de financiamento (Hsu *et al.,* 2014; Cornaggia *et al.,* 2015), as startups podem ser a peça que falta para encontrar soluções escaláveis. Normalmente, um ecossistema de startups tem a agilidade que as grandes empresas não têm - de um lado, as empresas corporativas têm recursos, escala e processos implementados, enquanto as startups geralmente têm a disposição de assumir riscos e a vontade de crescer rapidamente (Weiblen & Chesbrough, 2015).

Esta relação é comprovada de acordo com o estudo realizado pela *Gust* (plataforma de provisão e gestão de investimentos) designado "*European Accelerator Report 2016*", que

afirma que há uma tendência em crescimento de programas de aceleração com startups na Europa. Esta tendência é justificada, no mesmo estudo, por um lado, porque as empresas estão a começar a descobrir que os aceleradores são uma maneira eficiente e eficaz de aumentar o *engagement* com as *startups* e, por outro lado, porque as empresas têm frequentemente *skills* limitadas que aumentam a procura de serviços terceirizados (*outsourcing).*

Por último, este estudo tem em consideração um estudo interno realizado pelo grupo CTT, dirigido a 47 operadores postais e 25 empresas portuguesas, com o objetivo de obter informação e conhecimento sobre a forma como as empresas postais internacionais e portuguesas, que já têm uma abordagem/modelo de relacionamento com o ecossistema de *startups*, estão a construir e evoluir o seu modelo com este ecossistema. Adicionalmente, o estudo tem também em consideração um questionário efetuado ao ecossistema de *startups* para melhor entender suas necessidades no processo de tomada de decisão de um potencial parceiro de negócios, enviado a um universo de 500 *startups*, com uma amostra de 47 respostas.

Ambos os estudos ajudarão a encontrar e ajustar uma solução adequada para os CTT, alinhada não só com as os seus principais objetivos e metas de retorno, mas também com as necessidades das *startups*.

Assim, este projeto visa encontrar e propor um plano de implementação de um novo modelo de relacionamento com *startups* para os CTT, expressando os elementos chave para o sucesso da solução, os custos estimados e potenciais retornos.

Palavras-chave – Inovação, Inovação Corporativa, Inovação Cultural, *Startups, Service Design Thinking*

Classificação JEL: M13; O31

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GLOSSARY

1. **Pre-Startups**: Phase of creation and preparation of the entire business model of a startup - usually this stage anticipates the startup phase.
2. **Startup:** Newly created company with a technological base behind it, which is perfecting its business model, doing market research and / or testing its solution. It aims to develop a scalable business model around a product, service, process or platform.
3. **Scale-up:** It is a startup that reached the "growth phase", identified in the life cycle theorem by Millers and Friesen (1984). By OECD it is also characterized as a startup that have, on average, a 20% ROI in the past few years.
4. **Incubator:** An organization that structures and provides support for business projects that are beginning (pre-startups and startups): following their development and helping them to grow for a limited period - usually about 2/3 years – providing:
    - Physical space, such as individual workplaces, workrooms, workshops, meeting rooms and / or auditoriums (except in cases of virtual incubation)
    - Administrative or service support and communication / technological support
    - Technical support for business training (legal, management, etc.)
    - Counseling and mentoring provided by reference specialists, both in the business and technological areas, helping to identify business ideas, team building, business model design, customer discovery, company launch, etc.
    - Regular training actions on technology and management issues
    - Access to an entrepreneurial ecosystem and the network of contacts that facilitates access to mechanisms for financing and raising investment, as well as the creation of technological and business partnerships

5. **Pre-acceleration program:** Generally associated with a contest of ideas, it is a mechanism that - through a modular training base - intends to support business ideas with strong potential, that are in the initial stages of gestation, and that need physical, administrative and technological support, as well as financial capital and the supply of knowledge and skills, to be able to evolve into a structured business project.
6. **Acceleration program:** Typically aimed for entrepreneurial projects already with some prototype or sketched product Program with a defined duration, during which the startups work, based on a program of workshops and mentoring, in the acceleration of their business, fine-tuning the model and improving the product and the strategies marketing
7. **Accelerator:** Incubator with an acceleration program
8. **Co-working space:** Business solution that commercializes the use of physical spaces for business projects, whether individual or organizational. These spaces are usually endowed with individual workstations, meeting rooms, auditoriums, as well as the respective administrative / service support and communication / technological support
9. **MVP (Minimum Viable Product):** Product or service with basic features that can satisfy consumer's needs – usually called innovators. It is less expensive than the final product since it is made to test and get feedback from consumers in order to improve the solution.
10. **Business Angel:** Independent individual / private investor who provides capital to help entrepreneurial individuals or startups to develop their idea/business. Typically, a business angel is not only interested in having future returns but also becoming involved in the business as a mentor, investing their time to help guiding the entrepreneurial individual or startups.

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1. SECTORIAL FRAMEWORK

According with CTT's Annual Report from 2017, the paradigm of transformation of the postal sector continues to be evident in parallel with the previous years. Thus, the focus on efficiency and business diversification remain the strategic focus of postal operators. The weight of the postal business is steadily declining, accounting for less than 40% of the industry's revenues, with Orders & Logistics and Financial Services emerging as the industry's main levers of growth.

The phenomenon of digitalization has resulted in the structural fall in physical mail, which has been increasing in Portugal especially in 2017. This trend is widespread, however, in the Portuguese case in the period between 2014 and 2016 the fall (-3.7%) was still less aggressive than in some European realities, especially in countries where the digitization of government services is at an advanced stage. However, in 2017, the decrease in mail addressed to CTT was 5.6%, higher than the guidance range of 4% to 5%.

On the other hand, the growth of e-commerce has fueled the parcel delivery business. Postal operators have been developing their offerings in this area, making this business a pillar in their growth strategy. The volume of orders delivered by European postal operators increased by an average of 8% per year between 2012 and 2016. In 2017 the volume delivered by CTT in Portugal and Spain increased by more than 20%. In these markets, significant growth potential is also identified, since the number of e-commerce orders per capita is significantly lower than other realities. The globalization trend presents opportunities and challenges to operators as there is greater accessibility to non-domestic markets and flows, but at the same time competitive pressure increases. Specifically, in Portugal and Spain there is a phenomenon of "Iberization" of the business of several companies that increasingly see the Iberian market as one and that as such they

seek to provide services in an Iberian perspective and not only local, extending order delivery services.

Finally, postal operators globally have been able to reinvent themselves by leveraging their assets to exploit new sources of value. Diversification has required investment in levers of growth and a new focus of the teams, materializing in the less dependence that the operators have of the traditional business. The weight of non-mail business income has been increasing significantly in the sector (62% in 2016 versus 51% in 2011), particularly through the growth of areas such as Orders & Logistics and Financial Services. CTT adopted a similar diversification strategy, however, the limited penetration of e-commerce in Portugal and Spain and the launch of the CTT Bank only in 2016 mean that we are still behind our international peers. Thus, the Company's results are still very dependent on the performance of the mail business, which still represents more than 70% of our business.

With this scenario, CTT should follow its DNA and keep innovating as it did until now. To make it happen, CTT has an Innovation and Strategic department with 2 different teams: one focus on developing business cases for new ideas, solution or process and another one dedicated to scouting startups to present them to internal areas that might be interested in building a close relationship/partnership.

The last team, called “Innovation Management” has the challenge to reframe its process relationship with startups to not only follow a push strategy (scouting) but also have a pull strategy, structured and open to this ecosystem.

2. LITERATURE REVIEW

2.1. Innovation

Innovation is an important corporate decision, and nowadays companies invest largely, to be have success in this area. Recent literature studied the factors that make business companies more innovative and also the features that an innovative environment should have (Ucar, 2018).

In this case, creativity is a key element to create an innovative environment to push people to think differently on their daily basis (e.g., Florida, 2002a; Florida, 2002b; Florida, 2005; McGranahan & Wojan, 2007).

Creativity is the conception of an original and suitable product/service or solution to an open-ended task. It is characterized by the ability to see the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions. Creativity infers being proactive (Fritz & Sonnentag, 2009), constructive (Hammond *et al.*, 2011) and adapted to change (Anderson *et al.*, 2014). Means to be focused in change and in the future (Bindl & Parker, 2011). Via creativity at work, employees try to solve problems, do different things in different ways, figure things out, and learn new skills to project and produce something with add value. Thinking about it, it is clear that any company would want their employees to be more creative to produce new and useful ideas, which would provide competitive advantages in the future (Agars, Kaufman, & Locke, 2008).

While creativity stage states to idea generation, innovation states to the following stage of implementing ideas in the direction of getting better products/services, procedures or platforms. Innovation is a process of generating new products or new ideas (Van de Ven, 1986). While creativity requires something to be new, innovation is the proactive behavior of adjusting a situation or an individual, even if it means changing to something

that already exists somewhere else or that another person/company is already doing (Grant & Parker, 2008; Bindl & Parker, 2011). Generating new ideas does not necessarily means implementing them (Baer, 2012). To make the best use of creativity at work, is to select the best new idea and implement it (De Dreu, Nijstad, Bechtoldt, & Baas, 2011; Hammond *et al.*, 2011; Anderson *et al.*, 2014), so innovate.

2.2. Corporate Innovation

Innovation could happen in many forms but when we approach the topic about innovation in big companies or even in SMEs, it is essential to study Corporate Innovation, who has been receiving attention in the recent literature.

Porter (1992) affirms that corporate innovation is not only a competitive advantage but also a way to leverage the business fabric and economic growth.

Corporate innovation acts as a key measure of a company's competitive capability, as it represents its potential future growth, contributing to a sustainable competitive advantage to the market (Barney, 1991; Cho & Pucik, 2005). Many studies have explored the economic benefits brought by innovation investment, including, for example, organization sales growth, profitability (Jaffe, 1986; Cho & Pucik, 2005; Rubera & Kirca, 2012). Nevertheless, efforts in innovation have high risk due to the huge amount invested and the high probability of failure. Usually the initial investment is high due to the required resources such as technology and skilled human resources (Simpson *et al.*, 2006; Li, 2011). Other authors, as Holmstro (1989), shared the same principle argued that innovation is a long process with uncertainties and high probability of failure, thus it is crucial to be tolerant to failure in the short term and expect success in long term (Manso, 2011).

A key to success of corporate innovation can be related with company's tolerance to failure, meaning that if the investors are not tolerant of early failure, then the projects that

are being financed are more likely to be liquidated prematurely after a bad progress and consequently lose the chance develop innovative projects. In the other hand, company that accept early failure can avoid premature liquidation, allowing and encouraging the developing of the project (Tian & Wang, 2014).

The literature argues that despite big companies and startups are opposite organizations, if both combine their strengths, good things can happen. In one side, big companies have resources, power to scale and the procedures needed to run an efficient business model. On the other side, startups may not have these resources, but usually they have promising ideas, organizational agility, the disposition to take risks and ambition to have a rapid growth. However, the gap between both sides is challenging: big companies are hard to approach, and cultural differences could lead to misunderstandings. Nevertheless, in the quest for corporate innovation, companies are making some efforts to engage with startups, establishing new business models to fill the gap between both worlds (Weiblen & Chesbrough, 2015).

2.3. Cultural Innovation

While coming up with new ideas can happen at the individual level, innovation is considered to be a collective accomplishment (Van de Ven, 1986). Therefore, cultural or local factors in an area can have an influence on the creativity and innovative behavior of that same area. Communities with a significant number of creative people are expected to host creative cultures. In the same way, creative cultures are expected to emerge in areas with a significant number of creative people—people who have jobs that require creative thinking and innovative skills.

There have been some studies that demonstrate this relation. For example, some researchers have cross country studies that say national cultural factors can impact innovation (Shane, 1993; Steensma, Marino, Weaver, & Dickson, 2000; Sun, 2009;

Taylor & Wilson, 2012; Rossberger, 2014; Kostis, Kafka, & Petrakis, 2018). Rosenbusch, Brinckmann, & Bausch (2011) argue that culture has an impact on the innovation-growth relationship. Roig-Tierno, Ribeiro-Soriano, & MasVerdú (2017) say that individual firms' innovation strategies are similar to some characteristics of their local areas (Herstad, 2018). The communities with more creative individuals are the places where the most creative actions happen (e.g., Pitta & Fowler, 2005; Pitta, Wood, & Franzak, 2008).

The extent to which creativity is encouraged and supported in a place is a cultural factor in producing innovation. For example, Petrakis (2014) suggests that cultures that recognize creativity are more motivating for people to reach better outcomes in innovation.

2.4. Service Design Thinking

Tim Brown, the author of the book "*Change by Design*", CEO and president of IDEO – one of the best use cases for companies who want to develop and implement a service design thinking method – affirms that companies need to be customer centric, having in mind corporate objectives and customer needs.

Design thinking is not a new concept. Design thinking has already been discussed in 1969 by Herbest A. Simon, who considers an innovation a new or existing product or service with new or existing contributions/features. The same author argues that it is possible to, from one hand adapt current products for beginners or add fresh features to experienced users: both are evolutionary strategies. On the other hand, it is also an innovation if the focus is on creating an offer to new user in a completely different approach. Besides that, Herbert A. Simon (1969), knows that different types of innovations involve different management strategies and investments that have different levels of risk.

Implementing design thinking helps the developing process of creating new products that can adapt to customer needs. All corporate companies must become customer centric to

offer a good customer experience. As the dissimilarity between products and services start shaping, so does the dissimilarity between consumer and producer. Wikipedia is a good and successful example of that, where people not only use it but also take part of the creation process. (Brow, T., 2009).

Hasso Plattner, from Institute of Design, argue ,on the book "Change by Design" from Tim Brow, that design thinking has 5 stages, which are not sequential neither need an obligation to approach them all. Meaning that, this new method is flexible, and teams could do different stages at the same time or go back and forth across stages. The stages could be describe as following:

1. **Empathize**: the first stage is needed to deeply enter in the problem. Usually is characterized by research analysis (internal and external) to get the maximum information and insights possible to becoming comfortable with the problem identified.
2. **Define:** After gathered all information, teams should analyze and summarize all the problems found to define the major problem – that's the one we should focus on.
3. **Ideate:** Having all the knowledge and focusing on the core issues, it is time to "think outside the box" and try to identify new solutions.
4. **Prototype:** Design a low-cost version of the solution to investigate gaps or problems.
5. **Testing:** It is crucial to test the solution (product or service). Since service design thinking is an iterative process, this could not be the final stage. During the test, the solution found might need to be readjust, for example refine the problem, or change some features in the prototype.

3. CTT – CORREIOS DE PORTUGAL

CTT is one of the companies in which the Portuguese trust the most - they recognize CTT as the most popular and with a better public image. From its origins, dating back to 1520, the year in which King D. Manuel I created the first public postal service in Portugal, CTT took an evolutionary leap that presupposes profound changes.

The appearance of the first institution organized to send written messages facilitated the exchange of messages between people, from different social layers. In this way, the couriers approached the citizens, contributing to their wider sociability, not needing a physical presence to communicate.

Between the establishment of the public postal service in 1520 and the present time, through the establishment of regular mail transport by Mala-Posta carriages (1798) and by postal railway ambulances (1866), by the introduction of the stamp (1853) and the code postal service in the distribution (1978), the Portuguese Post Office ceased to be a postal company to become a communications group, whose service goes much beyond the delivery of correspondence.

Over the years, CTT has been able to adapt to the progress of society in order to respond effectively to the demands of a constantly evolving world and to approach customer needs, combining the values of trust and closeness that are the hallmark of Portuguese Post Offices.

All these changes are the reflection of accumulated experiences during almost five centuries of activity. As we enter the 21st century and faced with the challenges of the total liberalization of the postal sector, the CTT Company can rightly take pride in this

past, which has earned it the respect of international organizations and Portuguese civil society.

Today, CTT is a large communications network, with reliable business solutions to help the national business community in all areas that are at the core of its business: mail, Orders & logistic, payment services and, more recently, Banco CTT.

3.1. Mail

Despite the visible drop in mail in recent years, this service continues to be the one that contributes the most to CTT's operating income (71%) and EBIT (71%).

The recurring operating revenues in the Mail business area reached € 527.5 million in 2017, a decrease of 1.1% compared to 2016. This business area includes the post offices network which, in addition to providing postal services, retail and convenience, also provides services to other business areas such as sales channel. Also included in this business area are business solutions upstream and downstream of mail, namely printing & finishing, mail manager, video coding, hybrid mail and other complementary solutions to the mail business, namely advertising services like CTT Ads.

3.2. Orders & Logistics

If in the mail sector, we clearly see a downturn, this sector comes up against this scenario, both in national and international markets, showing great signs of growth potential.

In 2016 the volume of express and parcels grew by around 8%, most of which was boosted by the volume of domestic B2C orders. By 2020, revenue growth in this market is expected to be around 37% (referring to the global express and parcel market in the IPC's Global Postal Industry Report 2017).

At the national level, there has also been a strong evolution in the volume of orders in recent years. However, it should be noted that the growth in the volume of orders when

compared to the international markets has been more moderate, since much of the market is still referring to B2B orders, little influenced by the growth of ecommerce which is in turn the strong lever of growth of this business. In Portugal, the presence of companies on the Internet is still small (40% have an online presence) and only 27% of companies sell on this channel. Nevertheless, the weight of B2C orders in the domestic market has been increasing, especially encouraged by online commerce.

3.3. Payment Services

This business area included, in 2017, all retail-oriented financial services as well as the payment activity directed to the business segment, rendered either through post offices network or through Payshop's agents.

Operating income in this business area amounted to € 61.8 million in 2017, -12.7% more than in 2016. The reduction of € 9.0 million is mainly due to the recognition of € 3.2 million in 2016 relating to the memorandum of understanding concluded with Altice in 2015 and the decrease in income from payment and insurance services and PPR's of € 2.4 M and € 1.5 M respectively.

The last quarter of 2017 was marked at the end of October by the change of the Public Debt products of the responsibility of the Treasury and Public Debt Management Agency (IGCP), EPE, with the Savings Certificates Plus (CTPM) giving rise to the new Certificates Treasury Savings Program (CTPC), reflecting the improved Portuguese Public Debt rating. The placements of the new CTPCs were lower than those of the previous CTPM, although it did not prevent the volume growth of the whole put in the year to increase by 483 million euros compared to the previous year, since the public debt products marketed by CTT maintained the advantage of rates vis-à-vis most bank deposits

(whose average income was at historical lows below 0.3%). Thus, in 2017, revenues from the savings segment were mainly originated in the placement of Public Debt Securities.

3.4. Bank

At the end of 2017, Banco CTT reached a new historical mark, counting more than 20 months since its opening to the public in March 2016, it is present all over the country in 208 stores and counts on the confidence of around 285.000 customers, with more than 226.000 demand deposits accounts.

The focus on simplifying the day-to-day lives of the Portuguese and the diversification of the offer in 2017, notably with the launch of Housing Credit, have allowed Banco CTT to strengthen the relationship of trust and proximity to its clients. This is evidenced by the continuous growth of banking activity, with deposit withdrawals of more than 619 million euros, of which approximately 409 million euros on the order, the success of the Credit Card offer Banco CTT, with more than 49 one thousand cards placed, and the intermediation of Personal and Automobile Credit in partnership with Cetelem, available both in the stores and on the Bank's website, whose credit volume made available in 2017 exceeded 36 million euros.

Banco CTT proposes to provide its customers with affordable, comfortable, reliable and innovative services. In 2018, the goal was the same: to continue the strategy of simplicity, transparency and competitiveness of all its offer, in order to grow in clients, resources and credit granted, solidifying its presence and boosting its growth in the Portuguese banking sector.

4. STARTUP ECOSYSTEM

According with Por Data, a Portuguese certified statistics basis, nowadays, the Portuguese business fabric consists in ≈ 1.2 M of companies, of which 99.9% are MSMEs and

represent 56% of the national turnover. However, an internal study from CTT conducted by Deloitte, argue that due to the high number of companies without activity, it is estimated that the number of active companies in Portugal is around 500-600K. Between 2010 and 2016, according with Por Data, MSME sector had a growth of 4% in number of new companies, meaning a growth of 3% in revenue. Analyzing CTT, it was found that SME's account for, approximately, 24% of mail and 61% for orders & logistics revenue, leaving room to create an opportunity to make the most of a market that has not been fully exploited until now.

In the postal sector, many international operators, are already exploring this segment through acceleration programs. It is the case of Australian Post, who has an incubation program providing funding, assets and access to resources of Australia Post to help launch and grow startup business, of Correos with CorreosLab which has created a center of innovation and entrepreneurship for the development internal and external entrepreneurship that aims to to provide the exchange of synergies between projects for the development of innovative solutions and finally, for instance, the French postal group – La group postale – has an acceleration program called Start'inPost that aims to support startups who have potential to develop projects in its strategic business areas.

4.1. Acceleration Programs

The study "*European Accelerator Report 2016*", from Gust (a platform for provision and management of investments), conducted with 224 institutions from 27 countries, of which 156 are programmed acceleration, allows to realize that the accelerator industry in Europe is maturing and is increasingly seeing a collaboration model in accelerators and companies.

According to Moklos Grof, co-author of the study, this trend is justified, on the one hand, because companies are beginning to discover that accelerators are an efficient and effective way to increase engagement with startups and, on the other hand, because the companies usually have limited skills in the area of startup acceleration, contributing to the increase in demand for outsourcing this service.

The same study states that 66.3% of acceleration programs are characterized as "for-profit ventures", usually based on private capital (57.9%) with the aim of generating long-term profits. 53.7% of accelerators are at least partially funded by companies.

By 2015, 60.2% of accelerators followed a traditional cash-for-equity model. This model has as main characteristic, to invest small amounts in startups - in average 25,000 € - by equity between 5% and 10%. Traditionally, an accelerator accelerates 10-30 per year and invests between € 20,000 to € 50,000 in each business.

Curiously, 90% of companies surveyed say they expect to increase their revenue in the medium and long term by incorporating more dynamic models - mentoring, work space, events and cooperation between companies.

At the time of the study, Beta-I and Fábrica de Startups accelerators appear on the top 20 European most active accelerators by number of accelerated startups in 2016, ranking 6th and 12th respectively.

To conclude, the study also points out that the areas with the greatest potential to generate future returns, according to the percentage of accelerators that are willing to invest are: IOT (Internet of Things), Big Data and Fintech.

5. ANALYSIS

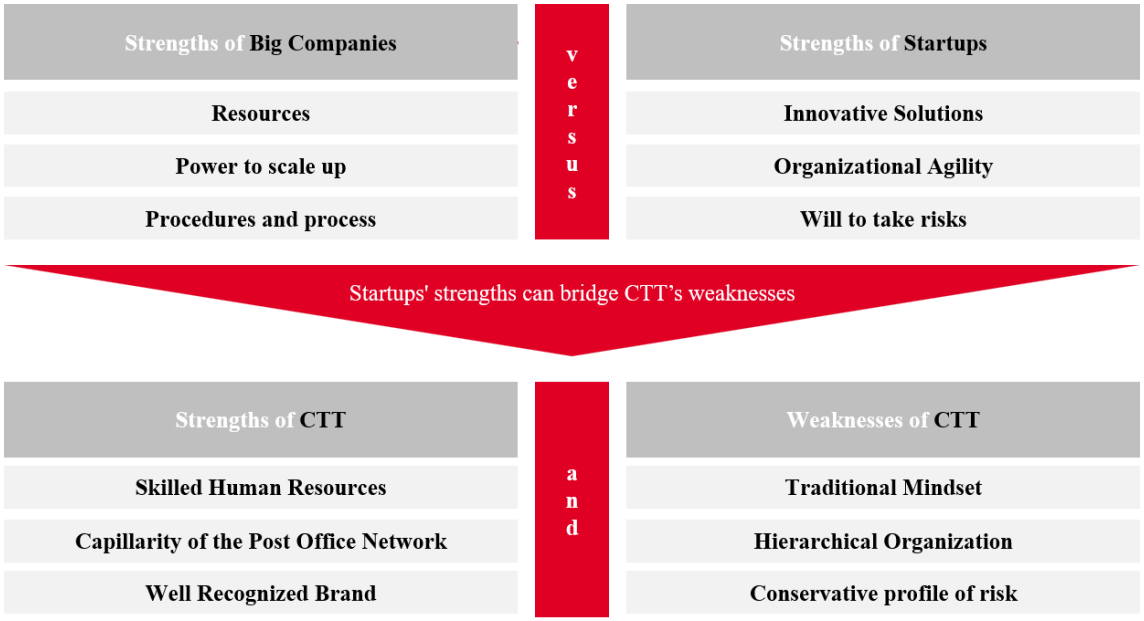

Figure 1. Summary figure from literature perspective by Weiblen, Chesbrough (2015) (made by the author)

From literature perspective, startups can be a way to fortify CTT's weaknesses since this ecosystem is characterized by having innovative and disruptive solution with MVP (minimum viable product).

Nevertheless, what should be the best relation model that match CTT ambitions, goals and financial with startups needs? How can CTT create more engagement with startup ecosystem?

To answer those questions, this project takes in consideration a study, from CTT, based on interviews/calls and a benchmarking conducted to 47 postal operators and 25 Portuguese's companies that already have a relationship model approach to startup ecosystem, aiming to get information and knowledge about how international postal companies and Portuguese companies, from different sectors, are building their relationship with startups ecosystem; and additionally, a survey, from CTT, sent to almost 500 startups, with a sampling of 47 answer, aiming to better understand startup's needs in the decision-making process of a potential business partner.

Furthermore, the succeeding analysis follow a service design thinking process model from Tim Brown - empathize, define, ideate and prototype and testing.

5.1. Project Framework

The conducted project has the main goal of creating an improvement solution for CTT regarding its current relationship model with startup that which will be detailed later on.

In an interview to a portuguese newspaper named *"Diário de Notícias",* Francisco Lacerda, CTT's CEO, that the boiling around technological startups extends the impact to everything. There are already many Portuguese and foreigners who think that Lisbon has a better location for its startups, which brings innovation, qualified people, capital for the case of projects, a positive snowball effect.

Following a service design thinking model, as detailed in the literature, the first stage will be deeply understanding the problem: stage one – empathize.

Currently, CTT has a Startups Observatory for exploratory exploration of business opportunities for the group. The AS IS model works as a continuous observatory of universities, incubators and startups that have made the stage of CTT innovation. This model is based on 3 strategic pillars:

1. Exploratory Innovation
    - Identification of market trends and discussion of future scenarios;
    - Definition of the strategic positioning of CTT;
    - Organization of innovation workshops and conferences.
2. Planned Innovation
    - Make ideas (generated in the Management of Ideas and Exploratory Innovation) into detailed projects and business models.

3. Innovation Community Management
    - Capture innovative ideas aligned with the strategic priorities of CTT;
    - Implementation and management of an idea management platform that guarantees the contribution and involvement of the entire organization.

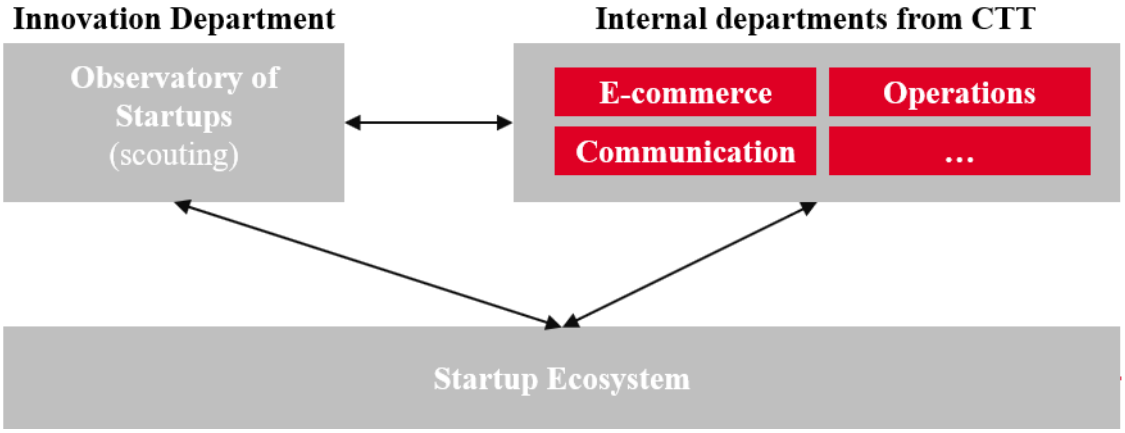

Figure 2. CTT AS IS Model (made by the author)

In summary, Innovation in CTT follows an open model in which there is cooperation with external entities for the generation of ideas and their development. This cooperation can be with several entities: competitors, customers, suppliers, universities, research centers and startups. Focusing on cooperation with startups, there is a Startups Observatory to identify opportunities for CTT, with some limitations, namely:

- Duplication of the resource allocation within the company and complete absence of synergies that can produce added value in each approach / process;
- Absence of a Group strategy duly communicated to the various areas that allow a structured return on the level of commercial, operational, and brand enhancement solutions (among others);
- Unsuccessful contacts can occur without being identified by the startups Observatory, generating negative situations for CTT and without triggering corrective actions.

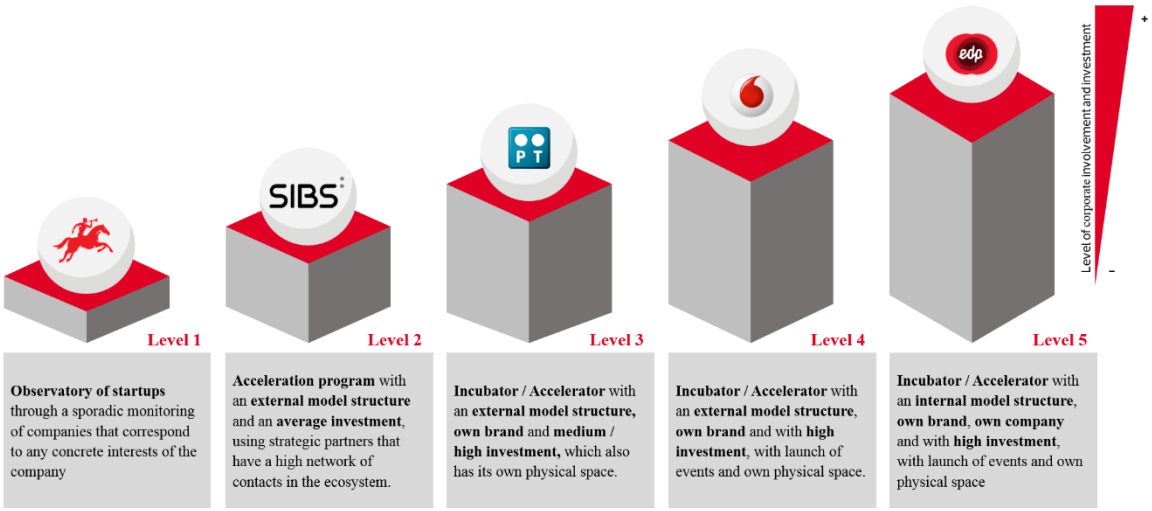

Figure 3. Position of Portuguese companies in the relationship models with startups (made by the author)

5.2. Benchmark

The relationship with startups is quite common both in postal operators and in the main Portuguese companies. To better understand the corporate relationship with startups, an internal CTT study was carried out on postal operators and Portuguese companies that, in a certain way, have a direct approach with startups. This study was based on:

- 47 Postal operators (including 2 integrators) covered by the International Post Corporation (IPC) report, of which 26 operators are in Europe, 2 in North America, 11 in Asia Pacific and 6 in South America and others.
- 25 Portuguese companies, of which 14 belong to PSI 20 - companies in the Banking, Communications, Energy, Construction, Retail, Transportation, Restoration, Information Technology, Cork and Pulp industries.

The main objective of the study was to understand the relationship between the companies/operators with startups -which are the most used models- and the resources available for this purpose.

5.2.1. Incubation and Acceleration Models

From the study, it was concluded that incubation and acceleration are two distinct types of programs for startups that can follow an internal, external model or be a mix of the two models:

1. Internal
    - Accelerator / incubator structure belonging to the company / operator. The major advantages of this model are focused on 3 points: (1) greater control of the program, (2) greater proximity to startups and greater potential to influence company culture, promoting entrepreneurship.
2. External
    - Accelerator / incubator structure belongs to a strategic partner. This model has as its main advantages (1) the opportunity to have access to a wider network of partners due to the strategic partnership, (2) diversification of investment risk and (3) resource sharing (i.e. strategic partner provides co-working and enterprise / operator gives access to pilot phases and market tests).

Allied to these two models, as it is possible to verify in the figure below, it is concluded, of the same study, that different programs can exist allied to each one of the models. In this way, the company / operator should choose the one that best meets their needs.

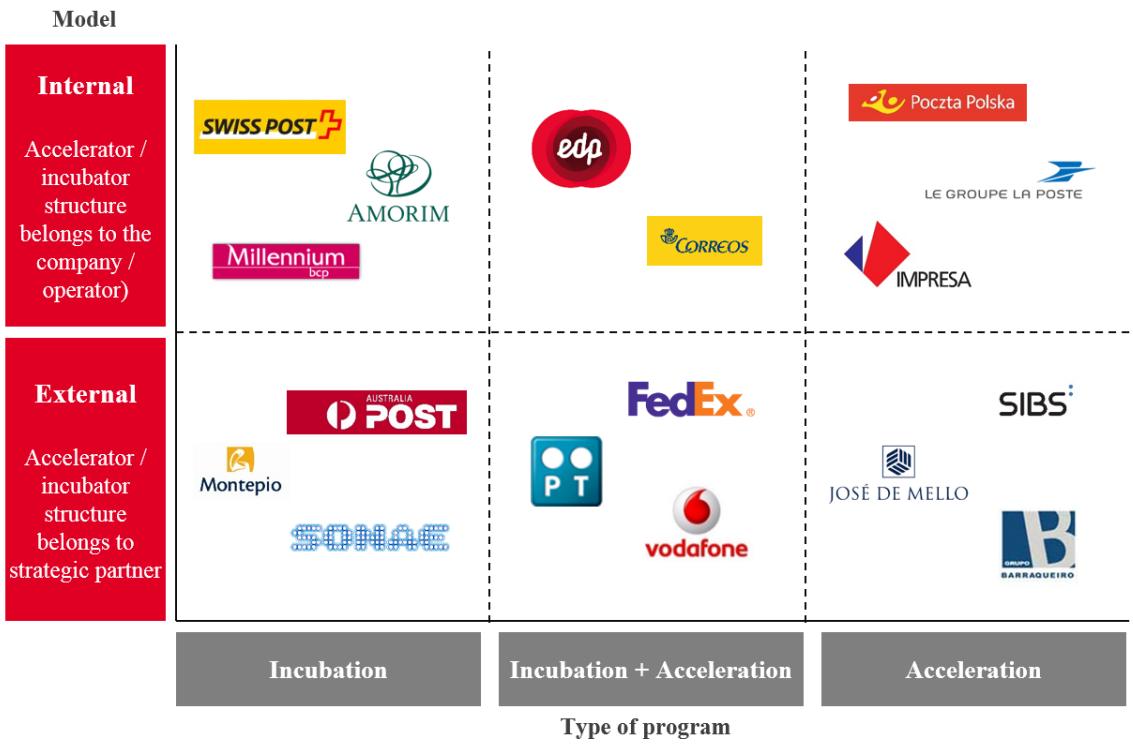

Figure 4. Portuguese companies and postal operators with incubation and / or acceleration programs (made by the author)

The study also showed that business support is very important for startups and generally consists of the provision of certain resources, such as mentoring and access to technology / networks. Support for the business is very similar whether it is an incubator or accelerator (the difference between the programs is mainly at the starting point of the startup and the goal of support - idea development or rapid growth).

5.2.2. Events

Through events, startups have the opportunity to solve specific business needs by entering acceleration / incubation programs.

As a rule, events are annual, and startups apply to present solutions to specific business areas. The event usually includes application steps, selection of startups for bootcamp and final pitch of the solution. Usually at the end of each event the winning startups have access to monetary prizes and / or can enter into acceleration / incubation programs of the companies / operators organizing the event.

The events of this kind lead to a greater approximation of the companies to new ideas / startups in the market, leading to greater engagement with this segment. The choice of the partners to carry out the event type must be made in a strategic way so as to choose a partner who already has an extended network with this segment.

In summary, the benchmark allows to conclude that:

- There are different relationship models, investment components, return sources and types of partnerships. The choice of the startups relationship model depends to a large extent on the degree of maturity of the startups that one intends to attract - incubator if the goal is to attract new ideas and startups or accelerators if the goal is to attract scale-ups;
- The main investment components are physical space, external communication, awards, test financing and strategic partnerships;
- The reinforcement of the brand and rejuvenation of the organization are the main source of return (mostly intangible) of this type of programs and the time-to-market is usually long (2 to 3 years);
- The network of strategic partners allows you to increase the model visibility you choose as well as share the investment costs and resources.

Allied to this, regardless of the model chosen, there are several factors important to the success of the same, in order to create a good relationship with the universe of startups. It is essential to have an internal commitment, to have clear and well-defined innovation strategies - KPIs established in order to measure the performance of the program.

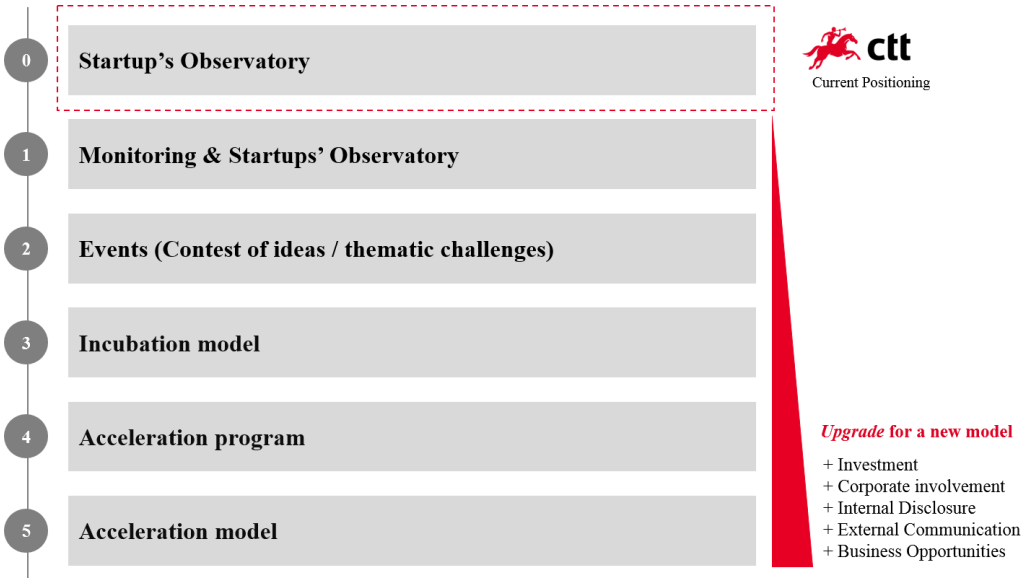

Figure 5. Different types of upgrades to the CTT as is model of relationship with startups (made by the author)

5.3. Repositioning

After the first stage of service design thinking model being completed, is time to start the second stage called "Define". Sir Hasso Plattner, from Institute of Design describe it as a stage to analyse, summarize and define the major problem.

The following model proposal should consider the level of involvement desired, in order to facilitate the construction of a win-win program with startups.

The benchmark allowed us to conclude that there are several solutions for the repositioning of CTT's relationship with startups, from keeping the current model evolving to a new model with different levels of involvement, investment and return for CTT. Each solution involves a different level of corporate commitment, investment and expected return and so it is necessary to compare the models identified with the CTT Group's objectives and the needs of the startups.

5.3.1. Models under analysis:

- **Startups' Observatory (AS IS model)**
  - Identification and contact with startups in a systematic way (Startups' observatory) and punctual (by initiative of the CTT areas) with limitations that can compromise the CTT image in the startup's ecosystem.
- **Monitoring & Startups' Observatory**
  - Evolution of the current model through a strategic partnership with one of the big players in the market specialist in the business relationship with startups in order to obtain know-how and to reach a greater number of startups.
- **Events (Contest of ideas / thematic challenges)**
  - Launching of new events in a contest model to identify ideas in specific business areas.
- **Incubation model**
  - Creation of an incubator with physical space of co-work and remaining support that characterizes an incubation program with a focus on pre-startups and startups (low degree of maturity).
- **Acceleration program**
  - Launching of an acceleration program (without physical space but with all the necessary support to the success of the projects received in the program) with a focus on startups and scale-ups (high degree of maturity).
- **Acceleration model**
  - Creation of an incubator with physical space of co-work and remaining support that characterizes an incubation program and launch of acceleration program for startups in the incubator (focus startups and scale-ups - high degree of maturity).

5.3.2. Return goals for CTT

- **New businesses**
  - Identification of disruptive solutions, organic or inorganic, that allow to increase CTT's revenue.
- **New commercial solutions**
  - Identification of possible products or services to be integrated into the CTT portfolio, generating additional revenue.
- **New operational solutions**
  - Identification of solutions to improve the operational efficiency of CTT, generating cost savings.
- **Enhancement CTT brand**
  - Increased visibility of CTT in the startups ecosystem - association of CTT with an innovative brand in the market;
- **Optimize internal resources**
  - Optimizing surplus resources, including people, spaces and materials;
- **Strategic Investment:**
  - Increase not only the presence in the startups ecosystem but also the contact with entrepreneurial culture.

5.3.3. Startups' needs

The model to be developed must consider the factors that Portuguese startups have identified as differentiators factors.

To this end, a survey was sent to about 500 startups, with several phases of maturity and inserted in several sectors of activity, in order to realize the most important needs that would make them work in a model of incubation or acceleration with CTT.

Of a set of factors, where startups could select a maximum of 3 factors, 64% of the startups surveyed, revealed that the differentiating factor that would establish a partnership with CTT is the opportunity to access a network of contacts; 41% say that it is important to provide a test environment and / or commercial pilots, and the same percentage affirms that having financing through equity participation would also establish a relationship with CTT. A lower percentage (36%) also states that external brand visibility is also an important factor in choosing a partner for acceleration or incubation.

5.3.4. Decision matrix

5.3.4.1. Models under analysis vs return goals for CTT

The likelihood of a match between the models under review and the return targets for CTT has led to the conclusion that the most viable options emerge for an incubator or an accelerator. Next, the models with the highest match are the acceleration program followed by the monitoring & observatory.

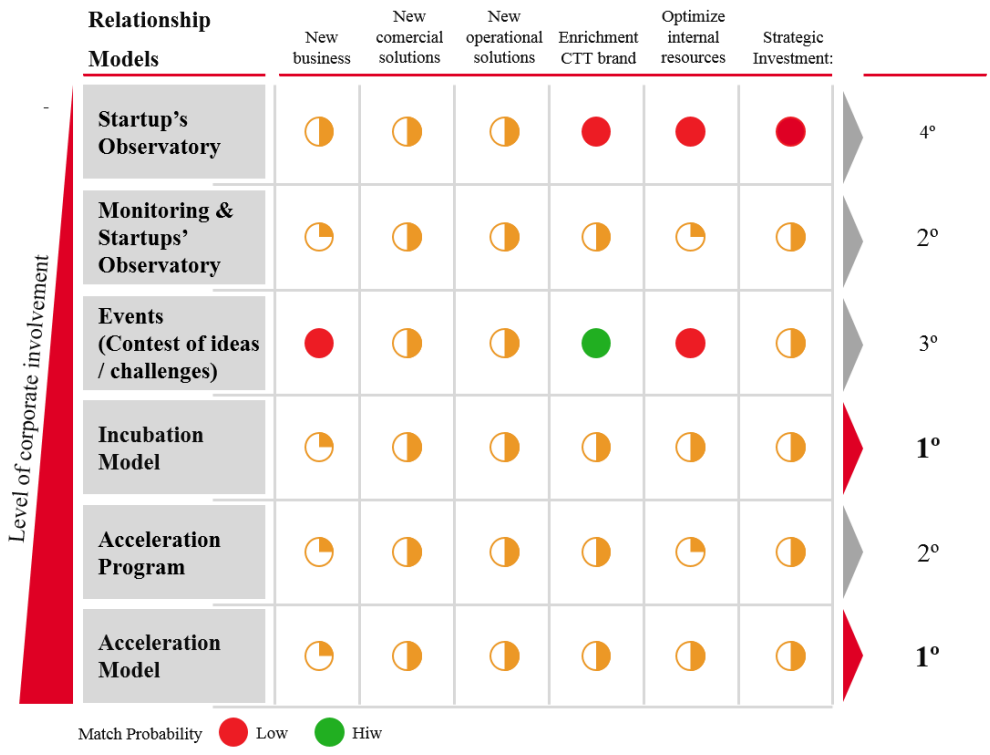

Figure 6. Decision matrix between models under analysis and return goals for CTT (made by the author)

5.3.4.2. Models under analysis vs Startup's needs

From startups point of view, the models that best respond to the type of support needed are the development of an incubator or accelerator. Interestingly, the acceleration program and the Monitoring & Observatory appear in second place, like what could be observed in the previous matrix.

Figure 7. Decision matrix between models under analysis and the most relevant factors for startups, identified through an internal survey (made by the author)

5.3.5. Final Solution

Incubator and accelerator are models that have a greater match between startup needs and CTT objectives. However, although these are the most attractive models, they have a high annual cost estimate.

That said, considering CTT objectives, startup needs and annual cost estimates, the best option is the evolution of the current model coupled with an acceleration program. In this way, it is possible to have a more dynamic model, to identify the startups and integrate them into CTT.

The acceleration program will be an added value that will allow greater involvement and visibility into the startups ecosystem without the need for infrastructure investment.

In addition, the shared use of resources (human and physical) and the establishment of strategic partnerships with players already established in the startup's ecosystem, can

reduce the cost estimate of the chosen model, so the strategic, in the short term, will have an external model to minimize and diversify the investment risk.

5.4. Solution

The stage 3 and 4 of the design thinking model exposed on Tim Brows' book "Change by Design" were develop together – "idealize" the project, finding a good solution its focus on the core issue and at the same time, start creating a "Prototype" for branding and implementation process.

Based on the assumptions analysed in the previous points, the optimum solution will be to create an innovation program focused on startups that will enable CTT to have a fortified presence in the startup ecosystem, which could boost many contacts with potential customers and / or partners. This new model of relationship with startups will allow the CTT business to leverage its innovative solutions to current problems by focusing on innovative, disruptive and differentiating solutions that allowed CTT to have the ability to achieve a good time-to-market in all their actions and strategies. This program allows constant monitoring of the startup market, while allowing the brand to leverage this ecosystem.

Coupled with this, and to increase engagement with the startups ecosystem, a contest for accelerating ideas will be launched. This event will allow startups to broaden their network of contacts, enter a differentiating market and also have access to pilot projects and capital and / or financing.

5.4.1. Acceleration Program – "Up to Innovation"

Monitoring and contact with startups, in an ongoing model in order to respond to identified needs in different areas. This internal model will be able to use, in the first instance, an external partner to form the internal team in the implementation of this new contact model with startups. The access to the process is done through scouting (pull

strategy), and its communication is made mostly through presence at fairs and events related to the startup ecosystem. The program will follow an ongoing model, with constant monitoring throughout the year.

5.4.2. Event / Contest of ideas – "Grow Up by CTT"

Acceleration contest to respond to exploratory innovation themes, which allows to reach a greater number of startups and leverage the brand's notoriety. It follows a mixed model (internal and external), initially using a strategic external partner in order to increase the network of contacts and so that the management of the program until the integration with CTT is ensured by it. This option aims to develop end-to-end know-how of the innovation process, creating conditions for later evolution to an internal model. The access is done through the submission of an application form (push strategy), and its communication is done through a website dedicated to the contest, using SEO and Display), on CTT website page as well and in press release.

This contest will have an estimated duration of approximately 4 to 5 months, from the process of screening the applications to the pilot project and consequently launch to the market, and it will happen only once a year. In any case, the duration may differ according to the number of candidates and depending on the complexity of the theme launched.

5.4.3. Schedule of activities

The "Up to Innovation Program" solution, following a pull strategy, has a strong scouting component. Its objective is to arrange startups adapted to the specific needs of each area. Because it is an on-going solution, there are no times for each of the steps - each startup will be inserted into the "recruitment funnel" independently. The selection steps are as follows:

1. **Scouting:** After identifying CTT's needs, the team in charge will be responsible to find startups that may interest and add value to the business.
2. **Selection:** After the first screening phase, a cross-check is made between CTT's current needs with potential startups.
3. **Interview:** With the needs in mind, it is identified through a face-to-face interview, if the startup candidate has the profile suited to the existing need.
4. **Internal Evaluation Committee Meeting:** After identifying the startups with the highest potential, the internal areas involved are invited to a meeting to present the solution to an evaluation committee. The evaluation committee will ideally be composed by members from CTT Innovation team as well as a member of the board of directors responsible for innovation department. This phase of the process aims to bring a greater level of internal commitment from the target areas to the selected startups so that they follow the rest of the process in a celebrated way.
5. **Kick-off:** After startup knowledge, company policy, values and integration intent, the startup goes through a pre-integration phase, in order to adapt its business solution to the requirements indicated by CTT.
6. **Acceleration:** During this period, the startup will be able to develop its solution, making all necessary adjustments according to the imposed requirements. For this stage of the process, the startup will have access to the monitoring and mentoring of a member of the internal area of the CTT (pivot) affects the startup.
7. **Proof of Concept:** This will be the phase indicated to start all the necessary tests, to obtain results that demonstrate the viability of the product or service.

8. **Integration:** If the proof of concept has the desired results, the selected finalists are invited to develop their solution, with follow-up of the pivots, having access to pilot tests before its launch to the market.
9. **Launch:** If the pilot tests, in a control environment, run in the best way, the selected startup is invited to launch its products and services in the market or to implement its project in CTT.

On the other hand, the "Grow Up by CTT" ideas contest, following a pull strategy, presents fewer stages of selection yet is managed with the help of a strategic partner with know-how in the startups market. In all there are 6 phases:

1. **Online application:** Fill out a form, available on the website available for the purpose. Startup should introduce itself briefly, explaining its solution and why it has fit with the CTT business.
2. **Selection:** Startups are selected according to the state of their solution as well as the potential for implementation in CTT.
3. **Interview:** Face-to-face, so as to know better the selected startups and to perceive in greater detail the potential of the presented solutions.
4. **Group dynamics:** Short-term event organized by the strategic partner associated with "Grow Up by CTT", where selected startups have the opportunity to have a better framework on CTT in order to enter the CTT business culture and in this way construct a solution aligned with the CTT group values.
5. **Bootcamp:** It is at this stage that startups have the opportunity to show their enormous potential and accelerate their ideas / solutions. This acceleration phase is organized by the strategic partner where the work plan is presented as well as all the resources that will be available during the acceleration period.

6. **Final Pitch:** After Bootcamp, startups have the final pitch where they will present their solutions to a panel composed of CTT members - ideally members of the innovation teams, the internal areas involved and some members of the executive board.

After this phase, the selected startups will go through the Acceleration, Proof of Concept, Integration and Launch phases for the market, previously described in the Up to Innovation Program.

5.4.4. Key elements

Target

It is important that startups have selected in the first phase to have an MVP in order to increase the likelihood of implementation as well as decrease time-to-market times. In this sense the focus will be to select startups and scale-ups with a medium / high level of maturity.

Resources

The solution will provide a set of features to the startups, however some of them will only be available to startups that have reached certain stages of the process, namely the last phase - Integration into CTT. Resources made available:

1. **Mentoring:** Specialized support in the strategic decision making of the developed solution. Clarification of doubts and bridge with other business areas of CTT. Available in all phases of the "Up to Innovation" program and the "Grow Up by CTT"
2. **Networking:** Communication facility with national and international partners (national companies and network of postal operators). Available in all phases of the "Up to Innovation" program and the "Grow Up by CTT"

3. **Discount on CTT products and services:** Provision of special conditions in CTT products and services (for example: Printing & Finishing Service, Mail Order or Shipment Orders). Available in all phases of the "Up to Innovation" program and the "Grow Up by CTT"
4. **Technical and market pilots:** Planning of pilot tests (technical and market) and support in carrying out the proofs of concept. Available only from the acceleration phase.
5. **Financing:** Possibility of financing for development and launch of the solution. This phase will only be available to companies that integrate CTT. Available only in the CTT integration stage, the last of the whole process.

5.4.5. Implementation Plan

To ensure that the new model is implemented, it is crucial to have a well-structured action plan with distinct steps and predicted deadlines. With that said, the plan should contemplate 4 stages: Internal Implementation, Planning and Control, Communication and Implementation of the new business model (with all predicted activities).

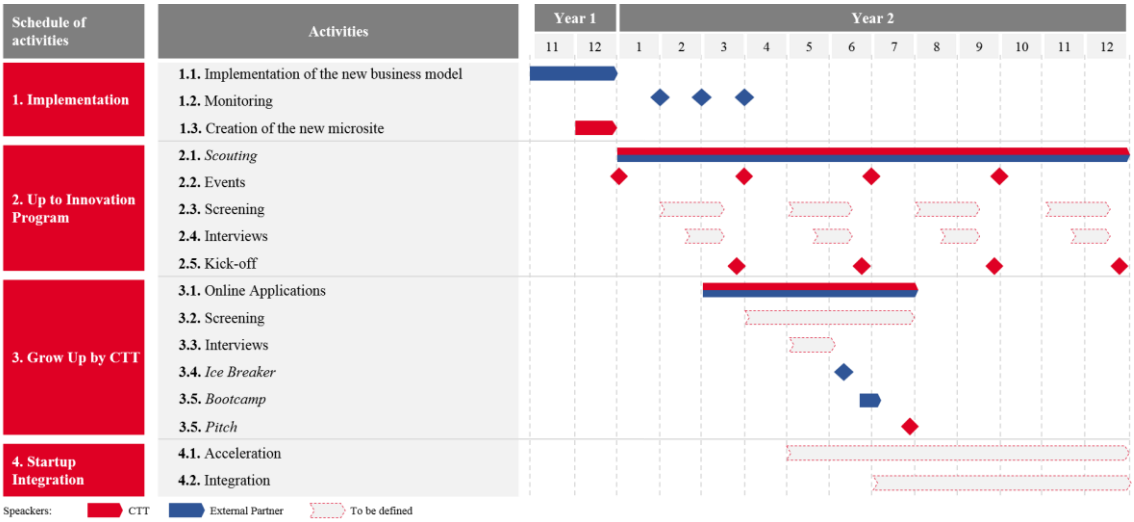

Figure 8. Solution implementation schedule (made by the author)

5.4.6. Investment Costs

All estimated costs were calculated based on CTT experience and knowledge from other similar actions and projects. For the final, was build two different scenarios: (1) Must Have and (2) Could Have. The first one, include only the Up to Innovation Program – ongoing acceleration/innovation program – and the second one acts like and an add, having also in account the Grow Up by CTT, which means having a content of ideas which will increase the initial investment but at the same time will be a great external communication tool

Scenario 1 - "Must Have"

As an add-on to the solution presented, with a high monetary weight, the "Grow up by CTT" ideas contest was excluded from this scenario. In this sense, it was only recorded the base costs for the construction of a new brand and implementation of the processes described in point 6.4. 3..

1. **Microsite "Up to Innovation Program"**
    a. Description: Creation of a space dedicated to the acceleration program to make known the new brand
    b. Costs forecast: € 5.000
2. **Implementation of the new model**
    a. Description: Construction of strategic pillars and planning of the execution of the business model internally in order to better manage, transform and change internal processes.
    b. Costs forecast: € 20.000

Totally of costs: € 25.000

Scenario 2 – "Could Have"

This second scenario add, to the described cost in the first scenario, the implementation

and communication of ideas contest "Grow Up by CTT". In particular:

1. **Implementation of the ideas contest**
    a. Description: This being an external model, CTT should use a strategic partner so that it implements the model internally. This implementation will first go through a consulting phase and consequently through the planning and training to the internal teams that will be managing the ideas contest.
    b. Costs forecast: 72.000 €
2. **External Communication**
    a. Description: Taking advantage of existing sponsorships and partnerships, it is possible to produce content for the promotion of ideas contest, through multi-publications (communication in magazines), brand images (communication through social networks with the possibility of TV / online interviews), press accessory (use of privileged channels) and promotional videos (promotion in digital channels).
    b. Costs forecast: 15.000 €
3. **Sponsorships and Events**
    a. Description: Creation of communication stands for events and bootcamps of the startup's ecosystem (i.e. Web Summit, PitchMarket, Beta-I or LACS).
    b. Costs forecast: 45.000 €
4. **Financing**
    a. Description: After startups are selected for integration, that is, they go through all the process selection activities of the "Grow Up by CTT" ideas

contest, a funding amount can be assigned so that startups can pilot tests and consequently launch the product / service to the market.

b. Financing forecast: € 100,000 (20,000€ to 5 startups).

Totally of costs: 232.000 €

Totally of costs for both scenarios: 25.000 € + 232.000 € = 267.000 €

5.4.7. Potential Return

An upgrade to the AS IS model is an opportunity to leverage brand awareness, garner more customers and gain a new source of financial returns.

Branding Return

The competition of ideas combined with a scouting ongoing of startups, allows to bring more strength and dynamics to the way the CTT approach the market of the startups, thus creating a relationship of proximity and trust with this ecosystem. In a succinct way, it allows to increase the notoriety of the CTT brand as well as, in the long term, become a Top of Mind brand when it comes to innovative companies in the Portuguese market.

According to a study made to the Innovation Company - Austrian acceleration program - 12 months after the launch of the program, the brand was able to generate an intangible value of 4.16 million euros. ("How to Be Successful in Corporate Startup Engagement").

Social Return

The greater proximity to the startup's ecosystem is a unique opportunity to present new products and services and additionally to attract new contractual clients, that is, small and medium-sized clients that have a direct contract with CTT and therefore have a dedicated service with more prices competitive. In addition, this is also a great way to start studying better a segment that, to date, has an "unknown" consumption profile, because many of

the startups and MPMEs are treated as individual customers because of their low consumption of products and services CTT.

From the survey conducted at 47 startups, 45.56% would use more CTT products through an exclusive fee for participating startups.

Economic return

Although it is not easy to measure the ROI of an acceleration project, specialized scouting, using an external partner with know-how on the subject, minimizes the risk of investment and increases the probability of return. One of the Portuguese companies that used this system managed to double its investment in 5 years, having a return of 40M € with 21M €.

6. LIMITATION OF THE ANALYSIS

Corporate innovation often faces serious financial constraints, due to lack of information. (Hsu *et al.*, 2014; Cornaggia, *et al.*,2015).

The biggest limitation of an innovation project is the prediction of financial return, especially in projects with startups.

Despite CTT already have an innovation department focus on scouting startups with business model related with their main business areas and objectives, building an innovation model have a huge initial investment for an unpredicted possible return – financially and in terms of branding.

Additionally, in the first few years it will be essential to have an external business model, meaning having a strategical business partner, to gain some knowledge, experience and networking through the startup ecosystem. Although this type of model increased the investment costs, having a strategical partner might be a key element to the success of the project.

7. CONCLUSION

Academically, the project, shows that CTT is a company that have innovation in its DNA and should be seen as an innovation case study as a company that were rebuilding its business model through the years. Being the first startup born on 1520 and still existing in 2018 is a proof that all company must keep moving forward with innovation, adapting their business models to the customers and market needs but also always seeking to capitalize and leverage potential market segments.

For Portuguese business, the project is a way to proof that, as literature argues, despite big company and startups are opposite organizations, if both combine their strengths, good things can happen. Corporate Innovations is correlated with economic growth and it is a way to leverage the Portuguese business fabric.

For CTT, the project was the first step to start building a closer relationship with startups, opening not only to the ecosystem but also to the Portuguese business environment as an innovative company and a trustful business partner.

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