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Tel: +44 2080680407

Web: <https://ejme.revistia.org>

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The Third-Party Funding in Arbitration: A Challenge in Times of Crisis

Maria João Mimoso

Portugalense University

Joana Lourenço Pinto

Portugalense University

Abstract

Arbitration as a way of resolving disputes between companies is essentially linked to the advantages of arbitration, especially with the speed and neutrality of arbitration, as well as the confidentiality, the possibility of choosing arbitrators with precise technical knowledge in the area of litigation, among others. The parties choose arbitration as a means of resolving disputes, relating to interests of an equity nature, bearing in mind that for some legislators the emphasis is on the availability of rights, arising from the contractual relationship that unites them. The payment of costs is a *sine qua non* condition for the constitution of the arbitral tribunal. The parties must proceed with the payment of taxes and fees, respectively to the arbitration center they have chosen and the arbitrators they have chosen. Considering that the economic situation of the companies may fluctuate, either during the execution of the main contract, or when the dispute arises, the constitution of the arbitral tribunal and during the procedural *iter*, the possibility of financing the arbitration was outlined. **Third-Party Funding** is a figure that involves a third-party, unrelated to the litigation, who will defray the expenses due by one of the parties to the arbitration. It will have as a counterpart the participation in the eventual financial result achieved through the success of the arbitration. As a methodology, in addition to analyzing the state of the art, we will indicate real cases and the reasons for the growth of this instrument, without forgetting the ethical issues involved.

Keywords: arbitration, companies, disputes, ethic, financing

Introduction

What is funded arbitration

Defining what is the “third-party funding”, hereinafter referred to as TPF, is not an easy or peaceful task, due to the simple fact that there is no consensus regarding this figure, besides its scarce regulation.

What makes it difficult to define it is precisely the existence of a series of modalities for financing litigation by third parties.

TPF, in the most common modality, can be defined as a form of financing, whether partial or total, in which a third-party, through a contract, undertakes to finance the costs necessary and inherent to the litigation, both judicial and arbitration, of a litigant. In return, the disputing party must reimburse and / or remunerate the third-party (TPF) with the gains it may receive with the conclusion of the dispute (LegalToday, 2018).

Even though this is the most common modality, the truth is that there is no consensual understanding as to the characterization and definition of TPF.

The difficulty felt by several authors and researchers in the construction of a solid and unique definition is notorious.

Even among those who defend a broad definition of TPF, there are voices around a more economical conception and that indicate that it can contemplate several figures, and the remuneration of the third-party must always be directly linked to the litigation gains. On the other hand, some argue that it is not possible to obtain a definition based on a single conception, since there are several types of financing (Goldsmith, et al., 2010), (Gonçalves, 2018).

All these controversies make the TFP delimitation task an almost impossible mission. There were even those who believed that we could embark on undefinition. However, if that were the case, we would fall into great instability, especially for those who bet on the TPF market.

The lack of definition of the TPF would increase the discomfort in the use of this instrument, whether regarding legal aspects or even economic ones. This is undoubtedly the reason why there are several attempts at conceptualization, which are different, and which we can find, expressly or implicitly, in some of the instruments that provide for and regulate the TPF.

In this context, the IBA Guidelines on Conflict of Interest (of the International Bar Association) is of great importance, constituting a crucial instrument in assisting arbitration proceedings. They are an instrument of soft law, being the first regulatory rules of the TPF in commercial arbitration and foreign investment (Hodges, 2017).

Not defining TPF concretely, the truth is that they determine what should be understood by TPF. This may be any entity that contributes funds or any material support to one of the parties to the arbitration procedure and that has a direct economic interest in the decision that will result in the arbitration (General Standard 6 (b) of the IBA Guidelines), (Gonçalves, 2018).

The IBA Guidelines also establish an important distinction between TPF and insurance denominated as ATE and BTE insurances. These are legal expenses insurance and are generally called BTE (before the event) or ATE (after the event) insurance, depending on when the respective policy is signed.

Regarding ATE, it is important to contract insurance by one of the parties to cover the risk of paying legal fees due to the other party. However, the formalization of this contract comes after the event that originated the dispute and, in turn, the respective judicial / arbitration procedure.

As for BTE, and unlike the first ones, they are contracted before the occurrence of any event and include not only the payment of the costs that the dispute involves to the hiring party, as well as the payment of costs to the counterparty, if that is the gist of the decision (Justice Jackson, 2009).

We can then see that, in the TPF, there is a direct economic interest in the litigation, and that, contrary to the stated insurance, ATE and BTE, there is a duty of compensation arising from the contract.

Within the scope of the various attempts to define and regulate the TPF, the Hong Kong Law Reform Commission followed a different path and ended up updating the legislation on Arbitration and Mediation. More recently, in 2017, TPF was legally defined as a financing agreement, by a third-party, to one of the litigating parties, with it having a benefit as a counterpart. This depends on the competent action being deemed valid and within the stipulated in the respective agreement.

In the Report of the ICCA-Queen Mary Task Force on Third-Party Funding in International Arbitration, published in 2018, TPF is expected to receive a remuneration or refund of the investment it has made, depending on the partial or total success of the dispute resolution, and alternatively, it may depend on the payment of a premium.

It is, in fact, fundamental to reach a general definition of the figure, so that an effective regulation can be outlined, implementing legal certainty and security.

However, we consider that there are at least three characteristics that must be present in the TPF: the funder must have no connection with the litigation; the purpose of the financing is intended to meet the costs arising from a dispute; the financier must be reimbursed for the amount disbursed, plus a remuneration, agreed in the contract, depending on the success or result of the dispute.

The TPF delimitation

The TPF is a solution that allows access to justice for all litigants or, to put it more concretely, that allows all parties, who do not have sufficient financial resources, to face a litigation, whether judicial or arbitration.

If the importance of this figure was already dazzled, today, in the middle of the Covid-19 era, the TPF assumes a unique relevance. The difficulties experienced by companies and commerce in general, in an unprecedented struggle and with a considerable decrease in their profits and even in assets, will provide a fertile ground for the means of out-of-court dispute resolution, *maxime* arbitration.

The slight delimitation of the figure, as referred, feeds a panoply of TPF modalities. One focuses on the possibility for a particular company to sell its shares or issue bonds, to obtain capital and thus finance litigation. Another arises with the so-called special-purpose vehicles (SPV), in which the SPV becomes the holder of the right of action, being this (SPV) held by an entity originally holder of that right. The TPF, in turn, acquires shares in SPV and, therefore, will itself finance the judicial or arbitration process (Report of the ICCA-Queen Mary, 2018). In this way, the financier will have greater control over the ongoing processes, since he becomes a shareholder of the company that is a party to the lawsuit, allowing for possible reimbursement and remuneration, certainly in the form of dividends.

We cannot forget that the markets are constantly developing, especially the capital market, developing various forms of financing. In this context, the portfolio funding emerged. This mechanism allows several cases to be financed in a single act through a simplified process and under the terms agreed between the financier and the financed. Portfolio funding offers all the benefits of financing a single case along with the additional benefits of financing at scale, diversifying financial risk and allowing for planning.

This mechanism proves to be one of the most attractive modalities for the parties in conflict, not only because the financier, when investing, has a lower associated risk, as well as it allows the financed party to manage its liquidity, since it will not support the total of the costs inherent to a process, or will not bear it at all, whether judicial or arbitration.

To clarify the problem, pay attention to the Tenor Capital case and the financing granted to the company "Crystallex".

"The Canadian company Crystallex had been expropriated from its mining unit in the Bolivarian Republic of Venezuela, and for that reason, initiated arbitration with the International Centre for the Settlement of Investment Disputes (commonly referred to as "investment arbitration" or "ICSID arbitration"). Subsequently, Crystallex sought to obtain financing through the issuance of USD 120 million debt securities, which were intended for payment to creditors and to meet the costs of the investment arbitration

process. Having been unsuccessful in this operation, the company filed for insolvency and asked the Canadian court to grant authorization to obtain alternative financing, for both purposes indicated. It was then authorized to carry out a financing operation that involved the injection of capital into the company aimed at paying creditors, developing the company's operations, and promoting investment arbitration. In this financing, the financing entity ("Tenor Capital"), in addition to obtaining several guarantees for the payment of its credits, also appointed two of the five members of the supervised company's board of directors. The particularity of this financing resides in the fact that a portion of the financing is liquidated in terms like the financing obtained in the financial markets (capital and interest liquidation) and the other is subject to the pure "third-party funding" regime, that is, it is subject to the risk associated with the outcome of the process." (Henriques, n/a).

As we have seen, there are several financing models that are provided by the market dynamics and by the needs that are being imposed by the respective economic agents. In view of the market's globalization and the intensification of trade, it will be easy to understand the exponential growth of transnational disputes.

We also verified the scarce information on the exact number of *funders* or *brokers*, which shows some reluctance by these subjects / entities to assume this position, precisely due to the lack of regulation and, mainly, due to the lack of definition of the TPF figure.

There are several problems, so we will return to this topic later, just stating, at this moment, that a litigation financier is a financial investor. In this sense, the right to "a portion of the future product" of the litigation is acquired. However, such activity involves risk. For this reason, economically attractive lawsuits with a reasonable expectation of success will be part of the financing agreement.

In this context, international arbitrations are chosen by investors / financiers, given their high amounts and greater predictability of results. In addition to specific needs (eg cash flow), companies seek this type of financing to reach a partner with whom to share the action's risk. It is a special partner, as it only seeks the profitability of the "business", without interfering, from the outset, in the legal strategy of the action. This will certainly be desirable goal. But, as we will see, there will be a need to guard against future conflicts of interest.

Disclosure of financing agreements

We will now inquire whether the party that resorted to the financing will be required to report this fact to the arbitral tribunal and whether, at the same time, it should disclose the terms of the financing to the counterparty.

On the one hand, we cannot forget that, in general, the state laws on arbitration and the regulations of the institutions that administer arbitrations contain rules on the independence and impartiality of arbitrators. On the other hand, the financing of

arbitration is equated, with due caution, to the legal aid provided by States to the neediest who wish to access justice. In the context of arbitration, financing by a third-party will undoubtedly go to international trade operators.

As law is shaped by social reality, the need to regulate the TPF was felt from the beginning, seeking to implement good practices.

The first guidelines on conflicts of interest in international arbitration (2014) are due to (IBA) as mentioned. Now, it is important to attend to some of them. See, especially, General Principle 6 (b), where it is stated that:

“If one of the parties is a legal entity, any legal or physical person having a controlling influence on the legal entity, or a direct economic interest in, or a duty to indemnify a party for, the award to be rendered in the arbitration, may be considered to bear the identity of such party.

The explanatory note to this guideline clarifies that” (...) *General Standard 6 (b) clarifies that such legal persons and individuals may be considered effectively to be that party. Third-party funders and insurers in relation to the dispute may have a direct economic interest in the award, and as such may be considered to be the equivalent of the party. For these purposes, the terms ‘third-party funder’ and ‘insurer’ refer to any person or entity that is contributing funds, or other material support, 15 to the prosecution or defense of the case and that has a direct economic interest in, or a duty to indemnify a party for, the award to be rendered in the arbitration”.*

General Principle 7 (a) also protects the third funder, providing that “*A party shall inform an arbitrator, the Arbitral Tribunal, the other parties and the arbitration institution or other appointing authority (if any) of any relationship, direct or indirect, between the arbitrator and the party (or another company of the same group of companies, or an individual having a controlling influence on the party in the arbitration), or between the arbitrator and any person or entity with a direct economic interest in, or a duty to indemnify a party for, the award to be rendered in the arbitration. The party shall do so on its own initiative at the earliest opportunity”.*

They clarify, in the respective annotation, that: “*The parties are required to disclose any relationship with the arbitrator. Disclosure of such relationships should reduce the risk of an unmeritorious challenge of an arbitrator’s impartiality or independence based on information learned after the appointment. The parties’ duty of disclosure of any relationship, direct or indirect, between the arbitrator and the party (or another company of the same group of companies, or an individual having a controlling influence on the party in the arbitration) has been extended to relationships with persons or entities having a direct economic interest in the award to be rendered in the arbitration, such as an entity providing funding for the arbitration, or having a duty to indemnify a party for the award”.*

The need to communicate the existence of financing to the Arbitral Tribunal is evident. In fact, the IBA 2014 Guidelines state, right in the introduction, that, with the emergence of large economic groups and international law firms, the development of international trade leads to situations of possible conflicts of interest and, therefore, should be revealed in arbitration. Thus, the third financier is equated to a party.

This issue is directly related to the arbitrator's independence and impartiality, which is, in fact, included in any law or regulation on arbitration, although these terms must be understood, as they cover different realities. Independence refers to the personal relationship that is established between the party and the referee and is determined in a more objective way, while impartiality is more abstract and linked to the referee's state of mind (Hong-Lin & Shore, 2003).

It is important to bear in mind that, on the one hand, global advocacy, business standards, increasingly complex corporate structures, the obscurity of relationships, which are increasingly intricate, and, on the other hand, the different cultural environments where arbitration takes place, access to indirect information facilitated by telecommunications, have all provided an exponential increase in questions about the behaviour of referees (Imsdahl, 2011).

Attempting to prevent "less ethical" behaviours, the IBA 2014 Guidelines also provide a list of colours in view of the severity of the circumstance that affects the impartiality or independence of the referee. We reiterate that these attributes constitute a fundamental rule of the procedure. This means that the arbiter not only has a duty to be impartial and independent but must also needs to be this way in the eyes of others. This duty includes the need to disclose any circumstance that may jeopardize confidence in the impartiality of judging.

Offensive behaviour regarding these duties could amount to a serious violation of the fundamental procedural rule and, therefore, be reflected materially in the decision (cf. International Centre for Settlement of Investment Disputes Washington, DC In the proceedings between Suez, Sociedad General de Aguas de Barcelona SA, and Vivendi Universal SA (Claimants) and The Argentine Republic (Respondent) ICSID. Case. No. ARB / 03/19), (Júdice & Calado, 2016).

Under this arbitration, the Arbitral Tribunal established parameters regarding the impartiality of the arbitrators. He stressed the need to analyse the relationship between the party and the appointed arbitrator, their proximity and intensity of the relationship, as well as the referee's material dependence on said relationship.

These parameters have been followed by several Arbitral Tribunals and must also be applied whenever a relationship with a third-party financier is at stake (Goeler, 2016). The Arbitral Tribunal should therefore inquire whether the TPF is directly involved in the appointment of the arbitrator.

We have no doubts in stating that the TPF poses entirely new questions and facts for arbitration. Imagine the following situation: In a given arbitration, F is the plaintiff's TPF and X, the arbitrator appointed by the plaintiff. In another arbitration, with another plaintiff, now B, the designated arbitrator X, now becomes B's lawyer, and the TPF of this arbitration is the same F. Even more: X may have friends, family or colleagues who work for F, or worse, X is himself a shareholder of F. As can be seen from the examples above, F and X inevitably have a close relationship, so X cannot prevent suspicions about the part financed by F (Phan, n/d).

Disclosure of the funder's identity and the purpose of the financing agreement at the beginning of the process is vital to avoid procedural challenges during the procedural *iter* or subsequent attacks on the enforceability of the judgment; Article V (1) (d) of the 1958 New York Convention on the recognition and enforcement of foreign arbitration awards.

Disclosure of financing is also justified in relation to the allocation of the costs of arbitration. At the time of granting the arbitral award, the Arbitral Tribunal may determine the reimbursement of the advance amount by the winning party and the losing party may not be able to afford the expenses.

In view of the above, the financed party must notify the Arbitral Tribunal of the existence of a possible financing agreement. Only in this way, will the Tribunal be in a position to demand or not appropriate bond, in order to minimize the risk of a future breach of the counterparty's obligation to repay. It should be noted that the losing party may have been the party financed in the arbitration process (Scherer, 2013).

As mentioned, another question arises: the disclosure of the content of the financing agreement. Let us not forget the role of the TPF and its interest in arbitration.

The counterparty, which has no financing, may want to inquire about the interests that move the financier. In short, the financing conditions.

However, this matter is not peaceful at all in the doctrine, since the disclosure of this information can jeopardize the duty of confidentiality, as well as the financiers' market itself (Teixeira, 2016).

It is natural for the funder to want to know in detail about the dispute, in order to be able to measure and decide whether to make the financing agreement. It becomes reasonable and even understandable that the financier receives information during the arbitration procedure, either as a way of monitoring the possible return on his investment, or to understand expenses incurred during the arbitration (Freitas, 2015).

The IBA 2014 Guidelines will once again be, without a doubt, an excellent instrument to assess this triangle of relations, party, financier, and arbitrator.

Some Contributions to TPF transparency

The Report of the ICCA-Queen Mary Task Force on third-party funding in international arbitration, April 2018, as mentioned above, is an important instrument for the parties, arbitrators and TPF, seeking to expedite the problems that arise during a financed arbitration. Its authors note that the report will not be the last word on TPF but will constitute a working basis for the future.

They list a number of Principles on disclosure and potential conflicts of interest with arbitrators. In accordance with the *Principles and best practices*, the following should be highlighted:

A party and/or its representative must, on its own initiative, disclose to the arbitrators and to the arbitration institution or nominating authority (if any) the existence of a third-party financing agreement and the identity of the funder.

The arbitrators and arbitration institutions are entitled to expressly request that the parties and their representatives disclose whether they are being financed and, if so, the identity of the financier.

According to the information provided, the existence of a potential conflict of interest between arbitrator and TPF must be assessed.

The Report also provides, in the guidelines it establishes, the Principles Regarding Privilege and Professional Secrecy and the Principles Regarding Costs and Security for Costs.

In short, the working group in question was concerned with the procedures, ethics and political issues related to the TPF in international arbitration, giving special importance to the regulation of the TPF in the harmonized context of the arbitration and integrity of the respective procedures.

Also, some jurisdictions have already introduced the TPF figure in their regulations within the arbitration framework. See the case of the rules of the Hong Kong International Arbitration Centre (HKIAC), referred to above, and the Singapore International Arbitration Centre (SIAC), which recently changed their legislation, establishing the legal framework for the use of TPF in arbitration.

Regarding Hong Kong, in short, the following discipline stands out: the activity of financing by a third-party of arbitration will exclude the direct or indirect participation of financiers who are integrated by lawyers or legal service providers, in order to avoid any conflict of interest; the communication of confidential information to a third-party or a potential third-party financier will be permitted and any recipient will be subject to confidentiality requirements; and the possibility of disclosing the existence of any third-party financing agreement to other parties, in order to avoid conflicts of interest in accordance with certain requirements.

In turn, Singapore has legalized third-party financing not only for arbitrations, but also for legal proceedings, given that the legal text makes no distinction in this regard, referring only to procedures for resolving disputes. They imposed restrictions on the financing hypotheses, limiting them to international arbitrations; lawsuits arising from or related to international arbitrations; mediations, arising from or related to international arbitrations; specific execution actions of arbitration commitment. To this end, they determine that the financing must be carried out exclusively by a qualified financier imposing certain requirements.

A note, also, on the Arbitration Regulation of the International Chamber of Commerce (CCI) which, since the beginning of 2021, contains a set of new rules that seek to increase the flexibility, efficiency and transparency of the arbitrations administered by that institution.

In terms of guarantees of independence and impartiality of the arbitrators, the CCI Regulation prescribes the duty of the parties to inform about the existence and identity of third-parties with whom they have entered into agreements for financing the arbitration process - TPF - and who have, to that extent, an interest in the outcome of the arbitration (Article 11/7); the duty of the parties to inform about any change in their representatives and the power of the arbitral tribunal to take the measures they deem necessary to avoid conflicts of interest of any of the arbitrators as a result of this change (Article 17/1 and 2).

Conclusions

The lack of specific TPF regulation contributes and will definitely contribute to a certain distrust in the figure.

Most of the rules governing litigation financing are mere codes of conduct or good practices, and are intended, above all, to guard against conflicts of interest.

Consequently, there is a unity of voices around the “necessary obligation” that the financed party has to disclose all relevant information, avoiding a potential conflict of interest between the parties involved in the process, whether arbitration or judicial.

In order to assess the arbitrator's impartiality and independence as well as relationship with the TPF, the following aspects should be considered: the latter's control over the process, his influence on the appointment of the arbitrator, the frequency of the arbitrator's appointments and his fees (Koh, 2017).

Currently, given the effects of the Pandemic on the economy, an increase in litigation is expected, even though it seeks to respect, on the one hand, the force majeure clause and, on the other, the non-compliance, temporary or permanent, of the contractual obligations that the parties assumed in the international commercial contracts.

Companies, as operators of international trade, will certainly be compelled to resort to litigation financing, so the TPF may present itself as a solution both in the scope of business mediation and, especially, in the context of international arbitration.

In fact, TPF has the capacity to transform a demand into a financial asset, which becomes, this way, the guarantor of a loan. This value will allow access to justice and facilitate, in terms of treasury, the possibility for companies to pay the respective costs and other arbitration expenses. However, this figure must be regulated, as it is extremely important that the entities that administer arbitrations, prevent possible conflicts of interest, adopting rules regarding the parties' duty to disclose the financing agreements and the identity of the TPF.

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Threats to Established Companies from Increasing Digitalization

Marco Pister

University of Economics in Bratislava, Department of Management

Abstract

In today's world, companies have to deal more than ever with increasing globalization/internationalization and enormous competitive pressure. Strong competitive pressure leads to faster and faster innovation cycles, constant technical innovations and programmes for further cost reductions. In recent years, digitalization has added another challenge for established companies. New competitors are blurring industry models through digitalization and offerings based on disruptive innovation, proven business models are no longer suitable from one day to the next and established companies are competing with service or usage offerings. Such service or usage offerings will almost always be considered by the millennial or always-on generation and pose significant risks to established companies.

Keywords: disruptive innovation, digitalization, risks to established companies

1. Introduction

Companies have been facing significant challenges for several years. In the literature, the causes for this are seen in particular as internationalization or globalization, increasingly differentiated customer wishes, saturated markets and a lack of opportunities for differentiation (Institut der Deutschen Wirtschaft Köln, 2016, p. 15-20). Digitalization is still a comparatively new challenge for established companies, as it leads to the emergence of new competitors with new services or value propositions, blurs existing industry boundaries and can affect the economic success of existing companies in these industries (Eckert, 2014, p. 263).

This paper addresses the question of what threats digitalization poses to established companies. To systematize the threats, this thesis uses two conceptual approaches: the blue oceans strategy by Kim and Mauborgne (2005) and the disruptive innovation considerations by Christensen (1997).

1.1 Approach

To answer the research question, this thesis is divided into four chapters. The second chapter deals with the theoretical foundations of the blue oceans approach and the concept of disruptive innovation. The chapter concludes with an identification of similarities and differences between the two approaches. The third chapter examines different forms of innovation in the context of digitalization. In each case, the innovations are presented using empirically comprehensible examples. The document is concluded with the fourth chapter, Conclusion & Outlook.

2 Theoretical background to disruption and digitalization

2.1 The concept of the blue ocean

The concept of the blue ocean goes back to Kim and Mauborgne (2005). The authors refer to different types of markets as red and blue oceans. Red oceans represent the currently known industries with clear industry boundaries and rules of competition accepted by all actors. In these markets, competitors try to outperform each other in order to secure the largest possible market share with respect to existing demand. The need to outperform each other leads to strong competition between the operating companies. Furthermore, as differentiation from the competition becomes increasingly difficult, this situation has a negative impact on the profitability of the companies involved: If companies' services are not distinguishable for the customer, competition is based on price, which poses the risk of ruinous price wars (Kim & Mauborgne, 2005, pp. 16-17).

Blue oceans, on the other hand, according to Kim and Mauborgne (2005), stand for currently unknown markets. Companies in a blue ocean do not use the competition as a point of reference; rather, the goal is to avoid the competition by creating a benefit for customers. The rules of the game do not yet exist in the markets created in this way; these are only defined by a company, the innovator in this market. This can happen, for example, by means of the definition of standards. Ultimately, an actor in a blue ocean does not try to find solutions to existing customer problems, rather their quest is to redefine the problem. The essential advantage of a blue ocean is thus to be seen in the fact that the direct connection between benefits and costs is cancelled out. In this respect, a market leader cannot only clearly distinguish themselves from the competition by creating a benefit innovation, but at the same time they can also offer this service at lower costs, which has a positive effect on the profitability of the company (Kim & Mauborgne, 2005, pp. 15-17).

In order to open up new markets or penetrate blue oceans, Kim and Mauborgne (2005, pp. 26-27) are guided by four key questions:

Which elements of the former business model or offering that were previously taken for granted in the industry can be eliminated?

Which elements can be lowered to far below the standard previously taken for granted in the sector?

Which elements that have not yet been offered in the sector can or should be newly created?

Which elements can be raised far above the industry standard?

By adapting their current business model on the basis of these four guiding questions, companies change their strategic contour and can thus, in the best case, achieve the above-mentioned differentiation from the competition with lower costs of their own (Kim & Mauborgne, 2005, pp. 27-30).

2.2 Disruptive innovation according to Christensen

Christensen's (1997) central contribution to innovation research can be seen in the fact that he introduced or developed a new systematization: Up to now, innovations have been differentiated into instrumental or radical innovations exclusively on the basis of the type of innovation object (for example, process innovation, product innovation) and on the basis of the innovation history. Christensen supplements the categorization with the dimension "evolutionary" or "disruptive", which refers to product performance (Christensen, 1997, pp. 10-12). Christensen (1997) describes innovations as evolutionary if they are based on something that already exists:

I call these sustaining technologies. Some sustaining technologies can be discontinuous or radical in character, while others are of an incremental nature. What all sustaining technologies have in common is that they improve the performance of established products, along the dimensions of performance that mainstream customers in major markets have historically valued. (S. 11)

Disruptive innovations, on the other hand, according to Christensen (1997), are characterized by a value proposition that is clearly different from the previous offering. Products based on disruptive innovations are worse in terms of performance than the current market offering when they are launched, but the advantages associated with the changed value proposition open up the possibility for the provider to open up new markets. Christensen (1997, p. 11) identifies five central principles or characteristics in connection with disruptive innovations.

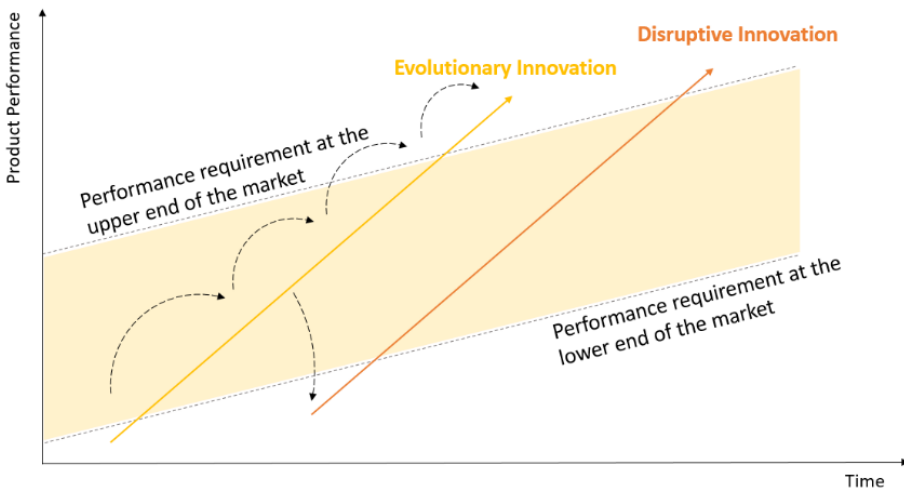
The first principle manifests itself in a company's dependence on resources from customers and investors: Christensen assumes that resources are used in a company to increase customer satisfaction and improve profitability, since a company can only survive in the long term in this way. Successful companies, Christensen continues, go through processes that allow them to discard those investments that do not contribute to increasing customer satisfaction or profitability. However, it is precisely these processes that would hinder disruptive innovations, since, as explained above, these are initially associated with lower customer value and/or lower profitability. In

this respect, established companies can maintain their market leadership with evolutionary innovations from wave to wave (see Figure 1), but recognize disruptive innovations too late and thus fall behind the innovator(s) in the market (Christensen, 1997, p. 14).

The second principle relates to market size. Christensen (1997, pp. 14-15) assumes that disruptive innovations are regularly accompanied by the emergence of small markets. For established companies, however, these markets are often too small to satisfy investors' expectations in financial terms by serving them. In this respect, disruptive innovations are usually attractive for smaller companies or a single organizational unit, but not for larger companies.

Christensen (1997, pp. 15-16) describes the failure of market research with regard to identifying disruptive innovations in the third principle. He assumes that a market for disruptive innovations does not yet exist. Since companies in the context of market research only try to identify the current needs of customers and respond to them in an appropriate way, they will not recognize disruptive innovations. This would mean, for example, that the customer knows his needs that will arise in the future.

Figure 1 - Difference between evolutionary and disruptive innovation



Source: Knöchelmann, 2014, n.d.

The fourth principle describes that companies have ingrained patterns both at the process level and with regard to the corporate culture or corporate values. These patterns relate not only to the distribution of resources but also to the way of working, which may not necessarily prove conducive to disruptive innovation.

In his fifth and final principle, Christensen addresses the relationship between supply and demand in terms of performance (see Figure 1). As can be seen, evolutionary

innovations exceed the performance requirements of the market at a certain point. The reason for this development can be seen in the fact that existing technologies develop faster than the needs of customers. From a certain point onwards, an overdevelopment can be observed. In contrast, destructive innovations start at the lower end of the performance requirements, are therefore initially not perceived as competition by established companies, but after a certain point on the time axis they precisely meet customer needs - and do so at a lower price than established companies (Christensen, 1997, pp. 15-17).

2.3 Blue oceans and disruptive innovation

Common to both concepts is the idea of opening up new markets in order to escape competition in existing markets. The blue oceans approach sees four possibilities for this: eliminating, creating, lowering and raising elements of the existing offer or business model. The starting point here is therefore something that already exists, in Christensen's understanding an evolutionary innovation. Disruptive innovation, on the other hand, creates a completely new offer detached from the existing one. However, there is an overlap with the blue oceans approach insofar as newness in Christensen's understanding can certainly be understood with the creation of new elements in the context of the blue oceans concept.

3. Dangers for established providers through disruption in the context of digitalization

3.1 Dissolving industry boundaries

A first danger for established companies or suppliers can be seen in the fact that developments in the area of digitalization and especially in the context of Industry 4.0 are blurring or dissolving industry boundaries and competitors from outside the industry are entering the established market of established manufacturers (Eckert, 2014, p. 263). This is clearly illustrated by the example of the automotive industry, where two different types of competitors pose competition for established companies through disruptive innovations.

The first competitor is the so-called mobility service provider, who completely turns the prevailing logic of the automotive industry upside down (see Figure 1) (BVDW, 2015, p. 1-2). Until now, ownership models have dominated in the vehicle sector, i.e. a customer acquires ownership or at least possession of a vehicle. Alternatively, there is the possibility of renting a vehicle for individual cases via corresponding service providers (in this case car rental - second). The latter, however, is generally associated with greater expense, as the vehicle can only be picked up at certain locations and must also be returned there.

Mobility service providers have a completely new perspective on the subject of vehicles, offering customers the opportunity to rent vehicles exactly when they are needed with little bureaucratic effort and a high level of convenience. In this way,

mobility service providers generate benefits for the customer in several respects: On the one hand, the customer always has access to a vehicle when it is needed, without any administrative effort (for example, booking and billing via mobile device). Secondly, such a service offer no longer necessarily requires the customer to own a vehicle, which represents a considerable liquidity advantage for the customer. Finally, this business model also addresses current social trends, such as the desire for a high degree of flexibility or the fact that vehicles no longer have such a strong impact as a status symbol (Wallentowitz, Freialdenhoven & Olschewski, 2009, p. 15; Winterhoff et al., 2009, p. 3-23).

3.2 Loss of value added potential through platforms

Another danger for established providers that can arise from disruptive innovations is the loss of value added potential through platforms. This danger exists in particular in connection with so-called multi-sided platforms. This type of platform is characterized by the fact that it brings together several different customer groups. These customer groups are interdependent and the platform thus performs an intermediary task. Digitalization has had a significant influence on the development of platforms, as developments in the field of information and communication technology (ICT) have made it much easier to bring together different people or organizations, and additional services can also be offered (Osterwalder & Pigneur, 2011, p. 82).

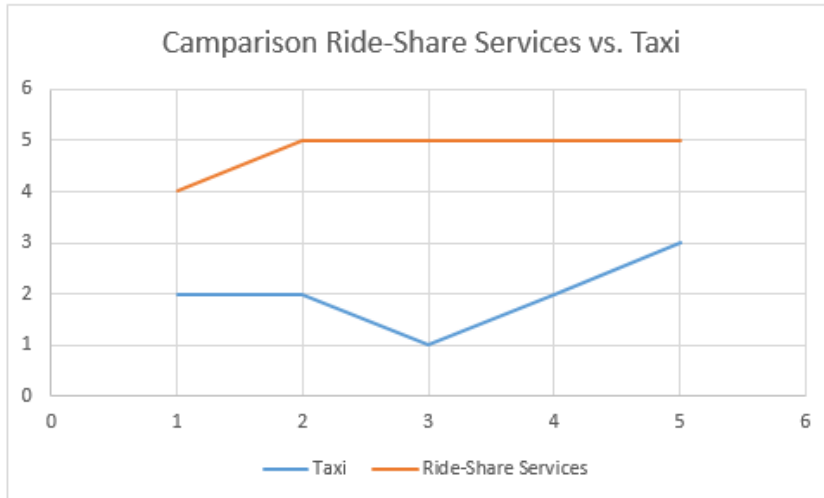
Platforms from the field of logistics can be seen as an example of the development over time: As early as the 1970s, there were platforms on which supply and demand for freight space were brought together. However, their use was associated with considerable risks (for example, the posting of bogus offers or uncertainty about the quality of the service provided, especially in connection with special freight). With the advent of ICT, the use of platforms not only became easier, the risk for the user could also be significantly reduced through the integration of additional services (for example, rating of users, credit checks) (Grotemeier & Lehmacher, 2016, pp. 75-76).

Platforms regularly pose a risk for established providers when competitors from outside the sector, especially from the ICT sector, set up such platforms and thus extract value creation from established providers. This is also particularly relevant in the context of digitalization, as platforms can be used to sell not only hardware but also digital content or services, as shown in the example of the logistics platform, which can significantly exceed the value added of the original core service (Osterwalder & Pigneur, 2011, pp. 82-105).

Another business model based on the platform idea in the area of mobility includes so-called ride-sharing services (second competitor). Here, passengers are referred to private drivers via the internet or a smartphone app, for whom there is an earning opportunity. An example of this is Uber. For this, a user has to install the corresponding application on the mobile device, which can then be used worldwide.

Only the credit card data must be deposited for use. The fare can be calculated in advance via the application. The actual fare to be paid takes into account the route as well as current traffic or congestion. After completing the journey, the driver can be rated. Payment is made by credit card, with the company retaining 20% of the fare as commission (Haucap et al., 2015, pp. 18-19).

Figure 2 - Comparison of ride-sharing service vs. taxi company



Source: Own illustration

With regard to the characteristic "disruptive", the fifth of Christensen's principles applies to the platforms listed, namely that the service provided by such a platform is initially small for the customer and the danger is thus not recognized by established manufacturers. This is due to the fact that the value of the platform for one user group depends largely on the number of users on the other side (Osterwalder & Pigneur, 2011, p. 82). Example: The value of the sales platform eBay is higher for a potential buyer the more sellers he finds on this platform. Conversely, the more buyers regularly visit the platform, the more attractive it is for a seller. In this respect, newly established platforms have a relatively low value for the user groups at the beginning, but when a certain threshold of the different customer groups is exceeded, a higher benefit can arise than with traditional offerings.

If an established manufacturer recognizes the emergence of a platform too late, they may no longer be able to react because, for example, appropriate standards have been set, exclusivity has been achieved or second, third or fourth platforms do not generate any additional value for customers and are therefore not accepted by them.

3.3 Failure of disruptive innovations

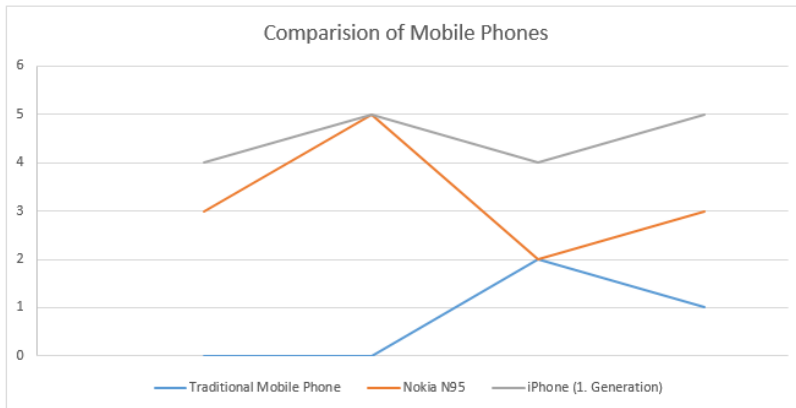
Another example that can be used to illustrate some of the above principles of disruptive innovation is the development of smartphones. Until 2005, the mobile phone industry was in the phase of evolutionary innovations, where mobile phones, for example, became more powerful, had larger displays with more colours, could store more phone numbers or became smaller and better to use (Erle, 2016, n.d.). Nokia brought a disruptive innovation to the market with the N95 in 2006. This mobile phone eventually had all the features that characterize today's smartphones: Digital camera, memory, media player, navigation system etc. (Bielinis, 2011, n.d.).

So up to this point, it can be said that Nokia, as an established company and market leader in the mobile phone sector, managed to bring a disruptive innovation to the market and thus mastered principles number 3 and 4 (failure of market research and entrenched patterns at the process and value level) listed above with flying colours. Nevertheless, Nokia disappeared from the market as a brand a few years later. The reason for this can be seen in the fact that Nokia "steamrolled" consumers with the N95 and the market was ultimately not yet ready for this disruptive innovation. On the other hand, both the N95 and the subsequent devices had considerable deficits in terms of usability for the user. This was not only evident in the operation of the device, but also in the use of its own platform for mobile applications. Ultimately, this meant that the sum of the product's performance was too low despite its innovative features (Bielinis, 2011, n.d.).

Competitors such as Apple took some time to bring comparable devices to the market, but in addition to improved technical specifications, these featured above all better usability - which was a major selling point in view of users who were still inexperienced with smartphones. After both Apple and Google were able to achieve success with their developed platforms, Nokia was no longer able to catch up (Bielinis, 2011, n.d.).

Ultimately, from the point of view of disruptive innovation according to Christensen, it remains to be said that Nokia created it, but then was not able to carry out the necessary evolutionary innovations in order to gradually achieve improved customer benefits. This is where other companies had advantages, for example Apple due to its experience in the PC and desktop sector. In this way, Nokia was not able to use its lead in time as an innovator to be able to take a market-leading position in the long term. Ultimately, it could be said that Nokia introduced the innovation that sealed the company's downfall.

Figure 3 - Mobile Phones in comparison



Source: Own illustration

In addition, there is the fifth principle in Christensen's logic: Nokia believed that the smartphone market was only a sub-segment of the mobile phone market. It was assumed that within a very short time every mobile device would be a smartphone (Bielinis, 2011, n.d.).

3.4 Loss of the customer interface

Another danger for established manufacturers can be seen in the fact that the interface to the customer can be lost through disruptive innovations. The smartphone market can also be used as an example for this: Because there are only a few operating systems for mobile devices, manufacturers have to choose a platform - but this means they lose control over the customer interface. The loss of the interface is particularly relevant because, on the one hand, data is generated via this interface (for example, about usage behaviour), which can be used to offer new services for the customer, and on the other hand, additional digital content can also be sold via the interface (Haug, 2013, pp. 36-42).

Another example is the customer interface in a vehicle: Here, too, there is a fundamental danger that third-party providers from other sectors (here: the ICT sector) can locate themselves in the vehicle with their offers, generate data and either develop their own services on the basis of this data or sell the data.

If, for example, a car manufacturer is not in a position to offer their own navigation software, they must fall back on a third-party provider who, however, may occupy the interface to the customer. This is particularly relevant with regard to the development of a self-driving vehicle. In order not to lose the customer interface in this context, the manufacturers Audi, BMW and Daimler have acquired the last remaining licence of a navigation software (here: the map service "Here" from the

telecommunications company Nokia), thereby preventing companies such as Google and similar companies from penetrating their vehicles (Zeit Online, 2015, n.d.).

4. Conclusion and Outlook

This work has highlighted a number of situations in which established companies face risks resulting from disruptive innovations. This is particularly the case when disruptive innovations blur industry boundaries and new providers enter the traditional markets of established suppliers. Likewise, new business models, e.g. based on the platform idea, can lead to companies losing value added potential or even the interface to the customer - this is a significant risk in the context of data-driven business models.

One possible response to the emerging risks is for established companies to tackle disruptive innovations themselves. The example of Nokia has shown that this can succeed, although the company was unable to profit from it in the long term because the innovation was not pursued with the necessary consistency. Under certain circumstances, it can make sense if either the search for disruptive innovations is already carried out in outsourced units of the company or if a spin-off is carried out at the latest when a decision is made in favour of a disruptive innovation, so that independent development can take place and the innovation process is not hindered by "thinking along old lines".

Another way of minimizing risk for large companies is to leave the development and market testing to other companies, such as start-ups, and to acquire these companies if they are successful.

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What Customer Wants to Read in Your Proposal

Vijay Kumar SP

MBA Strategic Management, M.Sc. Computer Science

Abstract

Earlier sales executives using their interpersonal & social skills built and cemented relationships with procurement officials over golf games, theatre outings and major events. That era is slowly but surely coming to an end. Today in the digital age, the context is completely different. Every organisation has access to vendors across the globe. Thanks to Artificial Intelligence (AI), organisations can compare their procurement performance in unprecedented detail. Procurement teams have relevant tools and technology to gather insights about seller's product or service offerings to the minutest detail. However, organisations are also under constant pressure to generate value to their stakeholders on quarter-on-quarter basis. Organisations are looking towards sellers to create value to their stakeholders. Sellers should innovate and help organisations grow in multiple dimensions. Empower organisations generate value to their stakeholders. In short become their strategic partner. In this new arrangement, seller-buyer relationship is no more a transactional, order-taking and resource supplying activity. Selling process is transformed with focus on value creation. Value proposition is the core of value creation. Infact it is a disciplined concept. Sellers who use it as strategic asset create win - win situation. This research paper walks through value creation process and details how value propositions are developed.

Keywords: hot buttons, smart framework, value proposition, socratic method, total cost of ownership (TCO), total value of ownership (TVO)

Introduction

Why do proposals fail to move to the next stage? In business proposals, we often pitch with a brand name, long-standing relationships, and sometimes a technologically superior product at a lower price. Despite this, we often end up on the losing side.

Why does this happen? Primarily because business proposals submitted are not customer focused. While customers wish for competitive pricing, they secretly desire to grow in multiple dimensions such as enhance their customer satisfaction, improve

their earnings, reduce cost, boost their profitability, better stakeholder management, greater investors wellbeing etc. [Ram Charan (2008)]

Broadly every customer has different needs, requirements, challenges, and aspirations that translate to a combination of metrics. These metrics are called Key Performance Indicators (KPI).

Every procurement a customer makes is stacked against their KPI's, evaluating whether the procurement adds value to their stakeholders or not. In short, proposal evaluators wish and look for superior value for their investments.

Customer focused proposal should not only address customer's KPI's but also focuses on their hidden desires. Value creation is a process of creating and enhancing qualitative and quantitative value to the customer through seller's solution offerings. [Larry Newman (2016)]

Value propositions in business proposals should provide a concise road map to deliver both aspects in logical and time bound manner. This is precisely what the customer wants to read in a proposal.

Systematic approach to develop and showcase value propositions for different users - economic, technical and end users within the customer's organisation is detailed in this paper. The figure 1 below illustrates our approach.

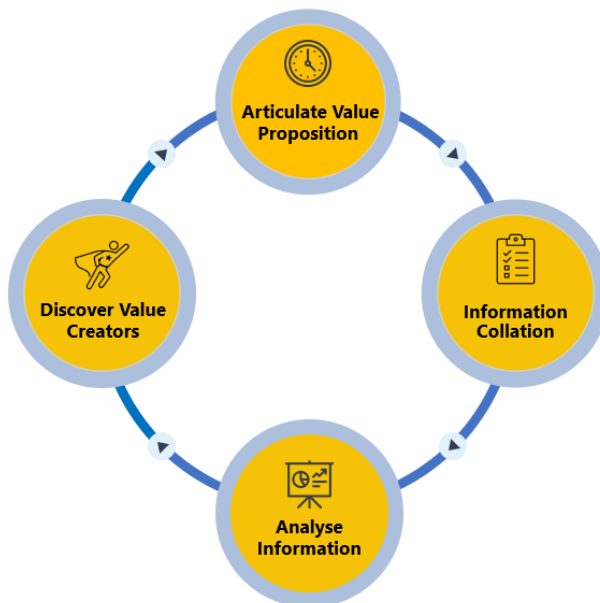


Figure 1: Value Creation Life Cycle: This iterative and radical approach, addresses customer's current and futuristic hot buttons, that sometimes are not even discovered by the customer, into a well-defined unique offering.

Literature Review

Collate Quantitative and Qualitative Information of the Customer

A major challenge of developing value propositions is to identify what to sell, whom to sell and what they really need. To answer all these questions, we need qualitative and quantitative information about the customer. “

Capture a lot of information, both hard facts and impressions. Start with basics like name of the company, business verticals, senior management, headquarters etc.

Once done, work on intellectual aspects of the opportunity like competitive analysis, account research etc.

The more we know about our customer, the better we will be able to identify their concerns. We need both quantity and quality of information to analyse.

However, how do we classify if the information obtained is qualitative?

Customer's opportunities, culture, values, dominant psychology, short-term, medium-term, and long-term goals, customer's customer, customer's competitors, end-customers competitors etc. are classified as qualitative information. [Ram Charan (2008)]

Nevertheless, quality information of a customer is accessible only when the customer trusts you. The easiest way to gain trust from the customer is to truly understand the information they share.

Once we understand, analyse, and dissect this information, it will trigger more questions for the customer which results in more exchange of information and people to people interactions. In no time, this trust will roll into a big snowball.

Identify Hot Buttons through Socratic Method

Analyse the collated information to identify the customer's requirements, needs and aspirations. The amalgamation of these three facets of the customer is called a “hot button.” The figure 2 below provides you with an overview of hot buttons. [Beveridge /Velton (1982)]

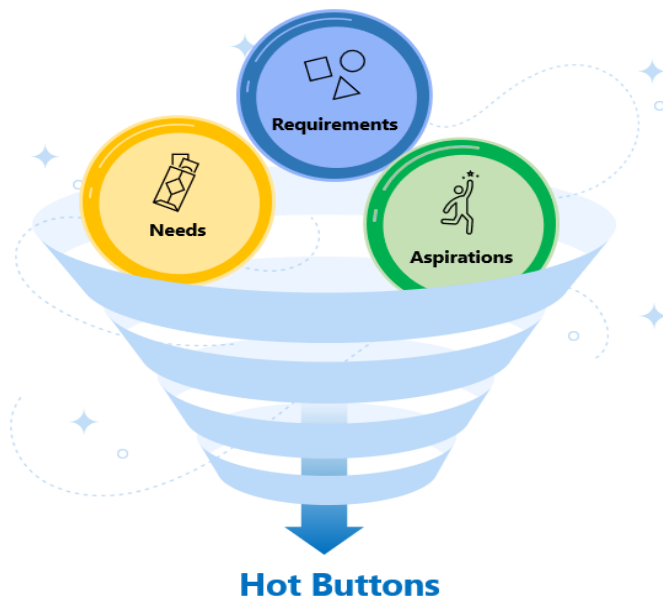


Figure 2: Hot Buttons: No two proposals are alike. Knowing your customer and their hot buttons is the single best discriminator. We need to connect the dots from the customer's perspective towards potential sale.

Hot Buttons are of two types implicit and explicit. While explicit hot buttons are relatively easy to find and understand, however implicit hot buttons are always hidden and aspirational. They are vital to examine and comprehend customer's opportunities, desires, and competitive dynamics.

To analyse hot buttons, we will employ the Socratic Method. It is a form of a cooperative argumentative dialogue between individuals, based on asking and answering questions to stimulate critical thinking and to draw out ideas and underlying presupposition [Larry Newman (2016)]

This is the best approach for analysis of information as it will arouse genuine curiosity about the customer. Participants will solely rely on dialogue.

This methodology is not meant to highlight superiority over our colleagues but to validate the accuracy of the information obtained in the previous phase and to discover customer implicit hot buttons.

Another important trait in this phase is to identify and tap the skills of various internal teams or resources to discover potential hot buttons. For example, Bid Managers and Capture Managers are not expected to understand and dissect financial information like annual reports but this is exactly what we need to do to understand the customer more deeply.

We need to identify the parameters that are most important to the customer. Is the customer looking for revenue enhancement, growth, expansion, or debt reduction? By analysing customer's annual reports intensely, we can uncover their hidden needs, aspirations, challenges, short-term goals, long-term goals, and sometimes actual relevance to current procurement. [HBR 2020]

For this to happen we need to employ our internal accounts and finance team or business analysis team to skim through customer's annual reports and come up with their analysis.

Once hot buttons are identified, group the related ones, and prioritise the way customer looks at them. If unsure, it works best to ask the customer to validate and prioritise the hot buttons.

This is a very important step in value creation. We need to align with the customers' thought process, their priorities and then work towards a solution.

Develop Value Creators through SMART Framework

The emphasis in this phase is to solve the customer's **hot buttons**. Our solutions should always focus on the customers' customers and their problems, motivations, and decision-making process. Interact with different sales teams who have worked with similar clients to identify any learnings. Determine if we need to partner with someone to provide a viable solution to the customer.

Value creators are the soul of value creation. It is a comprehensive sellers solution offering, that broadly addresses customers hot buttons in a methodical framework. Usually, value creators are laced with buyer's benefits and seller's discriminators. [David G. Pugh and Terry R Bacon (2006)]

Value creators should be developed in the Specific, Measurable, Achievable, Result and Timed (SMART) framework. Figure 3 below illustrates value proposition development for easy reference.

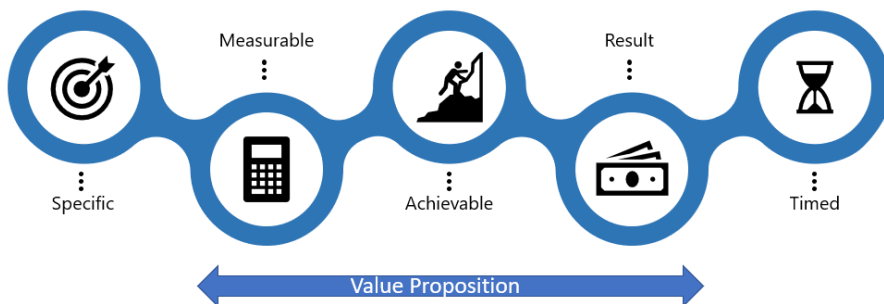


Figure 3: SMART Framework: Value creators should be developed in the SMART Framework. It should highlight quantifiable business benefit, cost and time involved, payback period, relevant proof, and result measurement. Impactful value propositions are often the difference between an ordinary and a winning proposal.

SMART framework is detailed below. All value creators should have the following characteristics:

Specific: Specify the value to be created. Indicate the cost, resources and time involved.

Measurable: Specify how results will be measured and tracked.

Achievable: Value creators should be realistic and achievable. Provide adequate reasoning or cite similar experience.

Result: Quantify the business impact/improvement.

Timed: State the payback period of the benefits.

However, value is perceived differently by different users within an organisation. Hence it is important to develop unique value propositions for different users and address their concerns.

For example, procurement and legal departments (technical buyers) perspective will be different from the marketing perspective. Similarly, end user's perception of value propositions will be different from that of executive management (economic buyers).

Once value creators are formulated for different stakeholders within the customer's organisation, we need to build a roadmap for these value creators with relevance to short, medium, and long terms. The greatest opportunities and mutual growth lie in medium and long terms.

Showcase and discuss these value creators with the customer to gather their inputs and identify any alternatives. If possible, have a pilot implementation – Proof of Concept.

Engage with different and more importantly prominent buyers in the customer's organisation. These isolated testing often helps us to refine our value creators. Study the impact of the value creators on the customer's customer.

Pricing and costing discussions should commence in parallel to ensure our offerings are within the buying range of the customer. The challenge is to position our offerings in the higher end of the customer's buying range.

If the solution is right, we can break away from traditional cost-plus pricing and charge premium price- value price. Value pricing is the customer's perception of the total value derived from our offering.

Articulate Value Propositions: Showcase Total Cost of Ownership (TCO) vs. Total Value of Ownership (TVO)

In this digital age, how we read and write has transformed remarkably. Certain C-level executives can be speed readers and might read the executive summaries on the go and in intervals. Hence information in snippets is preferred and is easily grasped.

In this context, articulating value propositions is a crucial step in this entire process. Value creators developed in the SMART framework should also be written in the SMART framework. It should be simple, clear, and concise. Carefully state all the assumptions and any conditions.

Value propositions is a concise result-oriented action plan to implement value creators. Value proposition should clearly quantify business improvement within the specified period, investment required and how results are measured and tracked.

Relay value propositions throughout the proposal through theme statements, callout boxes, figures, and action captions. Organise executive summaries and section introductions with value propositions for maximum mileage.

Use the Shipley's four-box template to organise your content in the executive summary. Highlight the value proposition for each hot button. For value propositions which cannot be quantified, provide adequate proof of your capabilities and/or highlight your experience. [Larry Newman (2016)]

It would be a clever idea to provide a detailed action plan and process involved for these intangible values in the body of the proposal or in the appendix section of the proposal. Refer to these sections in the executive summary to ensure authenticity.

Focus on all the buyers equally. However, summarise the value propositions for the economic buyers. Stack Total Cost of Ownership (TCO) against Total Value of Ownership (TVO).

Total Cost of Ownership (TCO) is the cost involved in the purchase of a particular asset/benefit, plus operating costs over the asset/benefit's lifespan. Total Value of Ownership (TVO), which is the approximate estimate of the quantified benefits the customer and customer's customer stand to gain.

Figure below illustrates TCO vs TVO [Ram Charan (2008)]



Figure 4: TCO vs TVO: Stack Total Cost of Ownership (TCO) against Total Value of Ownership (TVO). Highlight what the customer stands to lose if they are not opting for our product/service. In Innovation driven industries like Information Technology, customers who buy on price but not on value will fall back and will be at competitive disadvantage.

Methodology

The purpose of this research paper is to investigate how sellers, proposal professionals and marketers are developing compelling value propositions to their customers. Total of 5 participants were chosen for this experiment in past one year from different industry verticals including IT, ITES, Retail and their customers and prospects belonged to varied sectors including Automobile, Banking, Insurance and Engineering Services.

The data collection method is in-depth interviews to ensure data collection. Their perception and thought process for creating value propositions for their prospects/customers through this prescribed framework is recorded. Twelve semi structured interviews were conducted with these participants to collect the rich information of their experiences while using this proposed framework.

To ensure confidentiality, participants personal details are withheld. However below table illustrates participants industries, their prospect/customer industries, participants role and opportunity status of the opportunities where prescribed value proposition framework was implemented.

Table 1 : Value Proposition Survey – Implementation of Proposed SMART Framework

<i>Participants Organization</i>	<i>Participant Industry</i>	<i>Participant Customer</i>	<i>Participant Role</i>	<i>Opportunity Status</i>
<i>Participant 1</i>	<i>Information Technology (IT)</i>	<i>Banking</i>	<i>Proposal Manager</i>	<i>Win – Participant has moved to next level of Sales Process (RFP)</i>
<i>Participant 2</i>	<i>Automobile Industry</i>	<i>End User</i>	<i>Sales Manager</i>	<i>Consistently achieved revenue targets by 153%</i>
<i>Participant 3</i>	<i>Information Technology Enabled Services (ITES)</i>	<i>Automobile Industry</i>	<i>Senior Sales Manager</i>	<i>Win -Participant has won an L1, L2 support contract worth USD 250,000 for period of one 2 years</i>
<i>Participant 4</i>	<i>Information Technology (IT)</i>	<i>Engineering Services</i>	<i>Program Manager, Proposal Services</i>	<i>Win – Participant has moved to next level of Sales Process (RFP)</i>
<i>Participant 5</i>	<i>Information Technology Enabled Services Industry (ITES)</i>	<i>Insurance</i>	<i>Senior Sales Manager</i>	<i>On hold. Status Quo is maintained.</i>

Empirical Findings & Analysis

All the participants were of the view that promoting value propositions is challenging, both internally and to the customer. Just as value proposition needs to be customised for different users in the customer organisation, proposal owners need to have a different plan of action to get different departments internally aligned onboard.

Participant 1 felt that biggest challenge that a sales team in their organisation faces is to build credibility with other departments such as operations, legal, finance and marketing departments. In the past, the sales team have often committed to unrealistic promises to the customer and thrown the problems to other departments like delivery teams to resolve.

Participant 2 was of the view that we should approach the customer, not to sell but to build rapport, develop trust and learn more about their aspirations and hidden desires.

Participant 3 stated that their team (sales team) made lot of effort to convince their internal legal team for the concessions it was offering to prospect for that opportunity.

Participant 4 mentioned that, based on the value propositions developed, there was an exception made on prospect payment terms for that opportunity. Sales team had

sorted out pricing related sources of friction with legal and finance departments before submitting formal proposal to the customer. Participant 4 is of the view that compliant and responsive proposals are winning proposals.

Participant 5 has indicated that customer has rejected their value propositions as there were sceptical, due to their previous experiences. It is important to develop trust with the customer. Participant has identified a friendly collaborator within the customer organisation to develop value creators for their department. They plan to implement a proof of concept and co-author value propositions with these friendly collaborators to gain their trust.

Conclusion

The purpose of this research was to develop an comprehensive and compelling methodology and framework for identifying and articulating value propositions. This framework has been efficiently used by the five (5) participants across different industries over period of one year for various opportunities. Twelve semi structured interviews were conducted with these participants to collect the rich information of their experiences while using this proposed framework. Participants feel that proposals laced with unique value propositions for the customer are usually winning proposals.

Value creation method discussed in this research paper will nurture trust and will enable more and more comprehensive interactions with the customer, elevating the relationship to a strategic partnership. Unlike earlier approaches, where buyer and seller relationships are merely transactional.

Well-defined value propositions can destroy competition and ensure better pricing and margins. However, value creation cannot be achieved in silos. A top-down, inside-out approach works best.

The entire organisation should embrace value creation and should start submitting proposals centred around value propositions.”

Top management should play a key role in this monumental shift and should be involved in training key personnel in developing and articulating value propositions to their major customers.

Outside trainers can play supplemental roles in industry-relevant training and fine-tuning value propositions.

In conclusion, value propositions highlight superior value for the customer's investments. This is precisely what the customer wants to read in a proposal.

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Smart City EU - Lighthouse Projects – Investigation of Economic Benefits

Aik Wirsbinna

Faculty of Business and Economics, Mendel University in Brno, Czech Republic

Abstract

The major European Smart City Lighthouse Projects have gained a lot of attention and importance from the designers of Smart City Initiatives (SCI) since 2014. The EU Commission's funding under the Horizon 2020 program is significant. The supported cities include the European metropolises but also several smaller cities. All these cities are repeatedly named Smart City pioneers. However, the research still has a gap when it comes to value generation. This article deals with the economic benefits of these Lighthouse projects. The own developed categories are applied and proved with Lighthouse projects. The range of economic benefits is shown and evaluated using the qualitative content analysis of the data from the EU - CORDIS database. The sustainability in the Smart City Initiatives is showcased as economic benefit is prioritized higher than cost saving or efficiency.

Keywords: smart city, economic benefits, urban studies, sustainability, lighthouse projects, EU – Programs

Introduction

The global trend of an increasingly urban population is regularly mentioned as a trigger for Smart City thoughts. The figures and statistics have to date additionally spoken truly. Already, more than 50% of the world's population lives in cities (United Nations, 2019) and growth is expected to continue. The development can be seen not only in the populous countries of Asia but also in Europe as shows the development in Germany or Western Europe in general. The reasons for this are manifold: Significantly better living conditions, job opportunities, education and culture are mentioned by a multitude of researchers such as Henderson (2010), Brenner (2013) or Wang *et al.* (2012).

This increasing urbanization contributes to the economic and social importance of cities, but also to their poor environmental sustainability (Shen, Peng, Zhang, & Wu, 2012). Recognition of this trend is driving studies into new ways of adapting to rising requests and urgent problems; e.g. physical risks, such as the deterioration of

conditions in air and transport, and economic risks such as unemployment (Albino, Berardi, & Dangelico, 2015). The Smart City is a new manner of looking at cities. The optimization of available and new resources and possible investments are required (Lazaroiu & Roscia, 2012). The present paper seeks to address the concept of smart cities as a contemporary way to approach the challenges arising not only from the ongoing urbanization trend but also from overall societal trends such as increased digitalization of daily life (Parviainen, Tihinen, Kääriäinen, & Teppola, 2017) or the demand for more sustainable solutions – not only, but also within the concept of urban development (Bibri, 2018).

The concept of the Smart City

Smart Cities use technologies, including Information Communication Technology (ICT), to enable more efficient provision of services (Albino et al., 2015). Especially within the time of the Covid 19 pandemic period, the large need for facts, data and information of the population, which is mainly economically present in urban areas, is evident (Wirsinna, 2021). The publications, therefore, show an increasing interest in transforming the physical environment and performance of a city into a digital level (Lyons, Mokhtarian, Dijst, & Böcker, 2018). While the Covid 19 crisis has accelerated this trend (see Cheshmehzangi, 2021), the trend towards more increased and innovative concepts for city development is an already on-going one, as De Dutta and Prasad (2020) or Balogun et al., (2020) explain. The Smart City approach, which is among the most outstanding concepts in addressing these changes, has a wide range of sub-research areas. In this paper, I focus on the necessary basics to answer the research question, how the economic benefits of Smart Cities can be evaluated. In order to approach this question, an overview of relevant results regarding Smart Cities, their value creation and their benefits is presented before the empirical work shifts its focus onto European Union's Lighthouse Projects.

Smart City Definition

There are many different smart city definitions in the research literature and no uniform picture has yet emerged. Depending on the perspective of a city and its framework, the concept of Smart City encompasses the meaning of the word "intelligent": Smart City, knowledge city, ubiquitous city, sustainable city, digital city, etc. but no definition has been universally recognized (Paola & Rosenthal-Sabroux, 2014). The research published a few definitions. Especially in the recent period, many scientific papers have been published, many of them not older than 10 years, which deal with the subject (Albino et al., 2015). Ruhlandt (2018) has conducted a systematic method according to the Webster and Watson (2002) review standard to cluster the different definitions and studies. The picture remains confused as to how the concept of a Smart City can be considered (Wirsinna, 2021). Different approaches are used, but their differences are not clearly articulated or delimited either (Townsend, 2017).

The different approaches in the Smart City Definition can be summarized as follows:

The technology approach of a Smart City strongly links "smart" with applications of ICT. A smart city [...] is one that capitalizes on the opportunities presented by ICT in promoting its prosperity (Odendaal, 2003). „The use of smart computing technologies to make the critical infrastructure components and services of city-which include city administration, education, healthcare, public safety, real estate, transportation, and utilities- more intelligent, interconnected, and efficient“ (Washburn et al., 2010, P. 2).

The governance-focused approach focuses on the "smart" interaction of many actors but also on the possibility of differentiating themselves from other groups (Wirsinna, 2020). Smart City as a strategic urban orientation, while networking with governance is of a certain importance. „We believe a smart city to be smart when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance.“ (Caragliu, A., Del Bo, C., & Nijkamp, 2011, P.6) or „Academic literature highlights governance-related elements of smart cities. It suggests particularly three elements: (1) e-governance, (2) engagement by stakeholders, citizens and communities, and (3) network-based relationships such as partnerships and collaborations.“ (Gil-Garcia, Pardo, & Nam, 2015, P. 69)

Much of the definitions in the literature try to describe the multidimensionality and complexity of different areas of a city in a community approach (Wirsinna, 2021). Giffinger et al. (2007) identified the area's economy, people, governance, mobility, environment, and living identifiers, which are combined with each other in a Smart City. „A smart city is a city well performing in a forward-looking way in six "smart" characteristics, built on the "smart" combination of endowments and activities of self-decisive, independent and aware citizens“ (Giffinger et al., 2007, P.10-11).

The importance of the Smart City approaches and the high number of publications, further systematic literature analysis and reviews are available on the various Smart City definitions (see Ismagilova, Hughes, Dwivedi, & Raman, 2019; Moustaka, Vakali, & Anthopoulos, 2019; Ruhlandt, 2018; Zheng, Yuan, Zhu, Zhang, & Shao, 2020).

The different definitions of Smart City in the past mostly focus on the role of communication infrastructure. However, this principal aim reflects the demands from the period from the beginning of 1990 to 2000, when the Smart City label first gained interest when the ICT first reached a wide audience in European Countries (Caragliu, A., Del Bo, C., & Nijkamp, 2011). The development of the internet and digital reality plays a major role in the urban development. The combination of hard factors such as the use of ICT has increasingly been complemented by soft factors. The dimensions developed by Giffinger et al. (2007) take this up and this is reflected today in most concepts of smart cities as well as in EU projects.

Nevertheless, the question remains, why the Smart City concept remains elusive. This question is related on the one hand to the complexity of the urban processes and on the other hand, the factors mentioned by Giffinger et al. (2007) were already existing before the Smart City approach came up. This raises the question about the novelty of the concept.

It is the reduction of these factors with the new and higher performant digitization. The technological possibilities and the networking have increased massively in this context. In addition to the development of the digital space through social media, it is also increasingly a driving force behind further development of the concept of a city (Wirsinna, 2021). The connection and interaction resulting from these contemporary developments lead to a Smart City transformation (Molinillo, Anaya-Sánchez, Morrison, & Coca-Stefaniak, 2019). Social reality describes all people and behaviour in a city. The urban reality describes all the buildings, streets, and infrastructures of a city. This refers to the physical level of a city. Social reality and urban reality are the traditional city in this context (See Erokhina, Mukhametov, & Sheremetiev, 2019). Social reality shapes urban reality through the decisions. But now, the new digital reality is added. The engagement of social reality with digital reality is now well recognized. Social media, e-commerce, mobile devices are now indispensable in our everyday lives and continue to grow (Okhrimenko, Sovik, 2019). The connection of urban reality with digital reality is not fully developed yet. The first implementations have, of course, already been made here. But if one looks at the factors of Giffinger's Smart City (Giffinger et al., 2017), it becomes evident that digitization is not connected to all factors. At this point, the development path to a uniform view of a Smart City is not described fully yet.

Value creation of Smart City Initiatives (SCI)

Smart cities are associated with high investments, they usually concern innovation development, and infrastructure, require careful planning and political support (Anthopoulos, Fitsilis, & Ziozias, 2016). The question of economic impact is therefore very justified. A study prepared by Capgemini Invent (European Commission, 2020j) as part of the European Data Portal examines the economic impact of open data. Here, the question of the impact of freely accessible data plays a particular role (European Commission, 2020j). "Several benefits of using Open Data have been identified and consist of direct and indirect benefits. Direct advantages are realized in market transactions in the form of turnover and gross value added, the number of jobs associated with the production of a service or product, and cost savings. Indirect economic benefits include new goods and services, time savings for users of open data applications, growth of the knowledge-based economy, increased efficiency in public services and growth of related markets" (Wirsinna 2021, P.34-36). According to this publication, the market size of Open Data is expected €199.51 - €334.20 billion forecast for 2025. The projected numbers of direct open data jobs are 1.12 - 1.97

million employees forecast for 2025. The projected cost savings of the public sector for the EU28 + in 2020 will be €1.1 billion. Efficiency gains are measured in a qualitative approach (European Commission, 2020j).

Economic Benefits of Smart City Initiatives (SCI) – a category approach

In the literature, there are a number of descriptions that indicate an economic benefit of SCI (Wirsinna, 2021) with positive effects. However, no definitive answer can be derived in regard to the exact benefit. A generally valid proof could not be provided yet. A first classification by possible categories (Table 1) has been developed by Wirsinna (2021). The category formation helps to evaluate the different economic benefits.

Table 1: Categories of economic benefit of SCI

<i>No.</i>	<i>Categories of economic benefit of SCI</i>
1	<i>Efficiency</i>
2	<i>Cost savings</i>
3	<i>Security</i>
4	<i>City attractiveness</i>
5	<i>Connectivity</i>
6	<i>Sustainability</i>
7	<i>Smart Transportation</i>
8	<i>Smart Buildings</i>
9	<i>Funding</i>

Source: (Wirsinna, 2021), Page 38

EU - Lighthouse Projects

The European Commission has funded the Lighthouse projects for smart cities and municipalities under the Horizon 2020 research and innovation program. The SCIs are designed to develop solutions and business models that can be scaled and replicated, leading to measurable benefits for cities (European Commission, 2020i). Many well-known SCIs have received their initiation from the EU-Lighthouse Project. For example, Barcelona became one of the leading European cities in the Smart City sector with the "GROWSMARTER" Program. Since 2014, a total of 17 projects (Table 2) have been financed. All projects are driven by the same challenges facing EU cities. The total EU funding currently amounts to €360 million in a period from 2015 to 2024 (European Commission, 2020i). The aim is to ensure the economic viability as well as the efficiency in other cities. These projects include lighthouse cities and a number of follower cities working together to demonstrate these processes, technologies and business models and transform their ecosystems into smarter and more sustainable

places (European Commission, 2016). Lighthouse cities are also called city pilots because they carry out the SCI first and then other cities can learn from the experiences to generate success in the “follower cities” more efficiently. To this end, conferences are regularly organized by the EU and contributions are shared (European Commission, 2020i). Public money funding also forces a review and progress report to the European Commission. The Community Research and Development Information Service (CORDIS) is the European Commission's primary source of results from the projects funded by the EU's framework programmers for research and innovation (European Commission, 2020). CORDIS maintains a structured public database of all European Commission project information, such as project fact sheets, participants, reports, results, and links to freely accessible publications.

Table 2: List of EU - Lighthouse Projects

<i>Project №.</i>	<i>EU-Lighthouse Projects</i>	<i>Pilot Cities (Lighthouse Cities)</i>	<i>Timeline</i>	<i>Budgets - EU Contributions (€ million)</i>
1	SPARCS	ESPOO, Leipzig	2019 to 2024	19,7
2	POCITYF	Evora, Alkmaar	2019 to 2024	19,9
3	ATELIER	Bilbao, Amsterdam	2019 to 2024	19,6
4	CITYXCHANGE	Limerick, Trondheim	2018 to 2023	19,9
5	MAKING-CITY	Oulu, Groningen	2018 to 2023	18,1
6	STARDUST	Tampere, Trento, Pamplona	2017 to 2022	17,9
7	MATCHUP	Dresden, Valencia, Antalya	2017 to 2022	17,4
8	IRIS	Cute, Gothenburg, Utrecht	2017 to 2022	17,9
9	RUGGEDISED	Umea, Rotterdam, Glasgow	2017 to 2021	17,6
10	MYSMARTLIFE	Helsinki, Nates, Hamburg	2016 to 2021	18,6
11	SMARTER TOGETHER	Vienna, Lyon, Munich	2016 to 2021	24,7
12	SMARTENCITY	Sonderborg, Tartu, Vitoria-Gasteiz	2016 to 2021	27,8
13	SHARINGCITIES	Milano, Lisbon, London	2016 to 2020	24,7
14	REPLICATE	Florence, San Sebastian, Bristol	2016 to 2021	24,9
15	TRIANGULUM	Stavanger, Eindhoven, Manchester	2015 to 2020	24,4
16	REMOURBAN	Valladolid, Tepebasi, Nottingham	2015 to 2019	21,5
17	GROWSMARTER	Cologne, Barcelona, Stockholm	2015 to 2019	24,8

Source : <https://eu-smartcities.eu/>

The different SCI of the Lighthouse Projects pursue different objectives. It is now analyzed which economic benefits can be filtered out of the projects These can be clustered qualitatively.

Research question (RQ): In terms of Smart City Lighthouse Projects, which economic benefits can be evaluated?

Therefore, this research question builds on the research presented above and aims to provide a more systematic and structured understanding of the problem at hand. By focusing on comparable projects (see section 2), such an endeavor becomes possible.

Methodology and Data

In order to answer the question, where the economic benefits of SCI of EU - Lighthouse Projects are, a further intensive analysis is necessary. To answer the proposed research question, an extensive review of Community Research and Development Information Service (CORDIS) Project descriptions and a qualitative content analysis was performed (Mayring, 2010). CORDIS publishes all the objectives and (partial) results of the EU - Lighthouse Projects. Publications are available in the database in a standardized manner and are regularly updated to show the commission's progress (European Commission, 2021). This material was analyzed using the qualitative content analysis according to Mayring (Mayring, 2010). For further investigation about CORDIS pages with 17 lighthouse projects were encoded with the help of software (Table 3). The software MAXQDA (Kuckartz, 2016) was used to analyze the given information. The code system follows the deductive category formation, which represents the economic benefits (see Table 1) (Wirsinna, 2021).

Table 3: MAXQDA Project Information

<i>EU-Lighthouse projects – MAXQDA</i>
<i>Document groups: 17 (Lighthouse projects)</i>
<i>PDF documents: 38 (CORDIS)</i>
<i>Codes: 47</i>
<i>Encoded segments: 160</i>

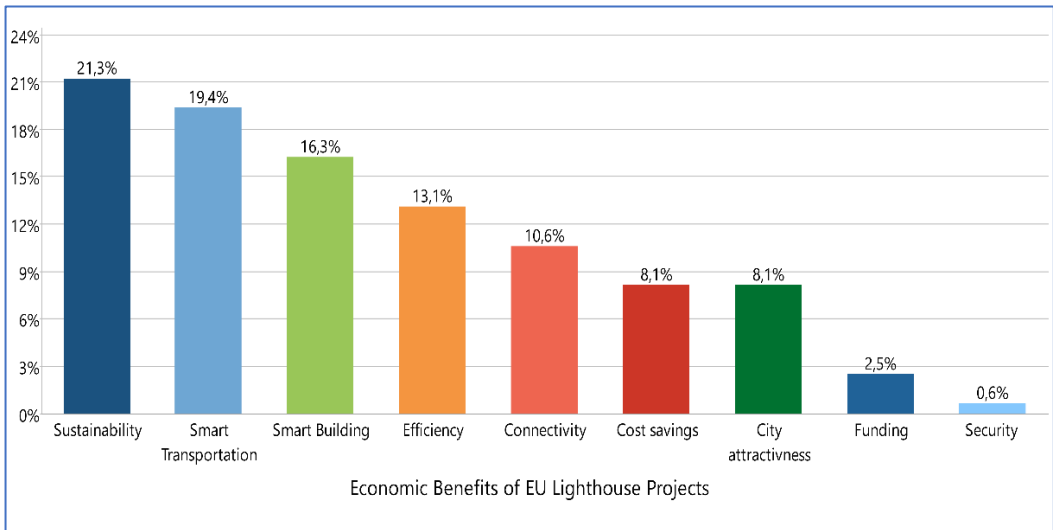
Source : own Table

Results

The evaluation of the economic needs of EU-Lighthouse Project shows that all categories are affected. The frequency distribution gives the following picture, see Figure 3. Therein, it becomes visible that the topic of sustainability – as discussed within the introduction of this paper – is considered among the most crucial aspects of outcomes alongside outcomes related to smart transportation and smart buildings.

Figure 2: Distribution of Economic Benefits of EU - Lighthouse Projects (own Figure)

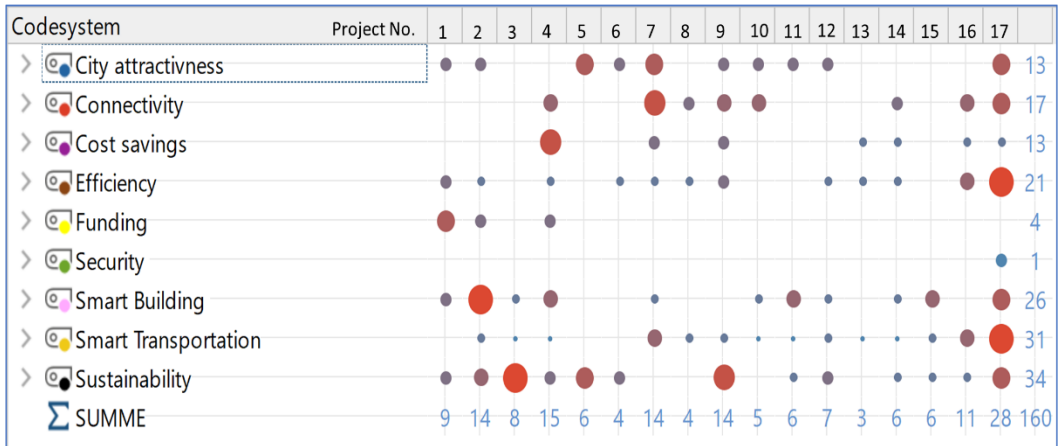
Source: (own Figure)



Security-related issues are only considered to be a minor aspect of the EU Lighthouse projects, which also seems true for the funding aspect. Improving the overall city attractiveness and leading to cost savings are also comparatively rarely mentioned among the economic benefits of Smart City projects.

The 17 Lighthouse Project is particularly focused on sustainable economic benefits. These have been mentioned most frequently. The least mention has been made of security issues Figure 4 shows the distribution of codes between categories.

Figure 3: Code Relation Browser



Source: (own Figure)

SCI Benefits - Efficiency

Improving efficiency rates is also an issue for the EU - Lighthouse Projects. However, the majority of these relate to the reduction of energy consumption or the modernisation of installations. The CITYXCHANGE project states: "+CityxChange will create solutions for Positive Energy Blocks leading to Positive Energy Districts and Cities through (i) decision support tools that enable informed decisions to be made by all stakeholders in the community, (ii) an approach to creating a positive energy block through energy reduction and efficiency measures, local renewable, local storage, flexibility and peer-to-peer energy trading and (iii) top-down community engagement driven by the local authority and bottom-up citizen engagement to inform, educate and drive behavioural change." (European Commission, 2018a) or in the Project RUGGEDISED: "It will showcase economic viability to significantly increase cities' overall energy and resource efficiency through actions addressing the energy systems, mobility, climate change, water and air quality." (European Commission, 2020e). Efficiency can also be improved by new technologies. Here, too, there is a scope of the GROWSMARTER from the project of the Smart City of Barcelona: "... The Smart Tower solution provides new telecommunication micro sites and sensors. The API implemented for the Smart Lighting System communicates with other applications. The Multiservice Concentrator collects and uploads data from utility meters and sensors to the data platform, which can improve resource utilization." (European Commission, 2019).

SCI Benefits– Cost Savings

The coding of "Cost Savings" has shown that the projects are mainly working towards energy consumption and resource conservation, too. As the Lighthouse project MATCHUP describes: "This program is a resource-saving measure that promotes an innovative business model: saving energy and costs in schools." (European Commission, 2020b).

Not all projects have references to the subcategories within the main category I developed. However, the CITYXCHANGE project states: "IoT a technology enables energy meters to automatically communicate with each other and exchange important information. Energy can be requested and offered decentral. All operations are processed via the Tangle, so that the market functions completely decentralized and without intermediaries." This system allows facilities in cities such as solar roofs, buildings, electric vehicles and batteries to track electricity in real time and thus act to decentralise and cost-effectively generate electricity supply and demand through a power exchange network (European Commission, 2018a) In the field of digitalization, companies with experience in this area are working together in the same practice. This is based on lower transaction costs.

SCI Benefits– Security

The SCI is the weakest in the area of security. This factor was mentioned only once in the area. The company IBM and the City of Stockholm have tested a camera – based security system in the project GROWSMARTER "The installation of Internet of Everything in an event arena provides added value for lighting, parking, transport, and maintenance. IBM and the City of Stockholm are testing a secure process of gathering camera-based" (European Commission, 2019). In all other projects, this economic benefit to avoid risk and damages played a negligible role.

SCI Benefits– City Attractiveness

The topic of city attractiveness is mentioned again and again in the SCI. There are goals such as "citizen oriented" in STARDUST (European Commission, 2020g) "direct engagement of citizens" in MATCHUP (European Commission, 2020b) "societies that improve citizens" quality of life, create jobs and wealth, and offer equal growth of opportunities" in SMARTENCITY project (European Commission, 2018c). Four illuminated projects promise approximately 9.000 new jobs in the target descriptions and thus clearly show economic advantages. The latest Lighthouse Project SPARC combines economic growth and quality of life as a benefit, "The impacts include economic growth, improving the quality of life and environmental benefits in relation to the EC's climate and energy policy framework. SPARCS co-creation brings together citizens, businesses, research institutions, urban planning and decision-making bodies and transforms cities into carbon-free inclusive communities (European Commission, 2020f).

SCI Benefits– Connectivity

In the field of connectivity, the focus is on big data and IoT. "... the development of city 3D models and the stimulate city of the demand side in the next 10 to 20 years..." in the MYSMARTERLIFE shows that with the help of big data information storage, new services will be offered in the future (European Commission, 2020c). At the same time, IoT is intended to build so-called Urban Data Platforms (UDPs). "These enable digital technologies to integrate data flows via open standards within and across city systems used by both the public and private sector. For example, platforms can share raw data streams or show 3D visualizations of how underground piping, bus lines, thermal grids, environmental data and a wide range of other information are connected"; RUGGEDISED (European Commission, 2020e).

SCI Benefits– Sustainability

In code distribution (see introduction to section 3), the benefit of sustainability has been mentioned most often. The Lighthouse Project POCITYF gives sustainability the highest priority: "Against this backdrop, air quality is expected to worsen due to inefficient buildings and CO2 emissions from transport. Therefore, transforming cities into more sustainable and liveable places has become a priority. "(European Commission, 2020d). However, sustainability is seen in the iron cases in the sense of a CO2 reduction. The ATELIER project sets out concrete targets for measurability: "The EU-funded ATELIER project will demonstrate positive energy districts (PEDs) in eight European cities that will be for strive for sustainability and carbon neutrality. Amsterdam and Bilbao are two lighthouse cities that have committed to generating an energy surplus of 1340 MWh of primary energy, prevent 1.7 kt of CO2 and 23 t of NOx emissions, and invest EUR 156 million to realise their PED goals. Bratislava, Budapest, Copenhagen, Krakow, Matosinhos, and Riga are the fellow cities that will replicate and adapt successful solutions. " (European Commission, 2020a).

SCI Benefits– Smart Transportation

In the area of smart transportation, the focus is on electromobility and the associated expansion of the infrastructure. The first projects in 2015 have already started the topic. In Eindhoven, for example, TRIANGULUM installed 14 electric vehicle charging stations. Concrete figures are often mentioned in these project to increase the use of electric vehicles and charging infrastructure (100% in Eindhoven and Manchester as from 2014) (European Commission, 2020h), with the aim with its merit of innovation offers the integration of e-mobility to as well promote the decarbonisation of the mobility sector. In RUGGEDISED it was clearly formulated: "...increasing the use of electric vehicles to improve air quality and reduce CO2 emissions" (European Commission, 2020e). A concrete benefit is described again in GROWSMARTER: "... Smart taxi stands have helped increase the use of parking stations and reduce the empty cruising for clients. Fast electric vehicles charging stations have been installed. ..." (European Commission, 2019).

SCI Benefits– Smart Building

Smart Building Initiatives are present in almost all projects. Energy-related considerations also play a major role in the overall development approaches. The development of districts or boroughs that consume less energy or can produce more than they consume using renewable energy – thus so-called positive energy districts (PED) - were often called initiatives to generate an economic advantage. This includes the retrofitting of buildings. But also, the smart connection within a quartier should generate corresponding benefits. For example, smart quartiers will be built in the Lighthouse Cities Evora (Portugal), Alkmaar (Netherlands): "The two Lighthouse cities will benefit from solutions divided into four "Energy Transition Tracks": Innovative solutions for positive buildings and districts, peer to peer energy management and storage solutions for grid flexibility, e-mobility integration into smart grid and city planning and citizen-driven innovation in co-creating Smart City solutions." (European Commission, 2020d). The smart home in the private sector, often mentioned in the Smart City Context, is not a big issue at the Lighthouse project. Only in the project TRINAGULUM one refers to a kind of renovation platform and was therefore interpreted into this correction: "... have made use of the digital renovation platform Woo connect and 174 made a plan/scenario for the renovation of their home. The Eindhoven open data platform has been visited 96.000 and downloaded 4.000..."(European Commission, 2020h)

SCI Benefits– Funding

The EU finances a large part of the Lighthouse projects, as the analysis implied. In doing so, the EU aims to promote innovations that have a high potential for future market readiness. CITYXCHANGE states: "This initiative identifies innovations and innovators with high potential for EU-funded framework programmes for research and innovation and assesses their market maturity." (European Commission, 2018b). However, funding aspects are not mentioned outside of this statement.

Discussion and Conclusions

Main Contribution

The economic benefits and value generation can be very diverse in Smart City. This is not surprising since smart cities are a broad concept. The study of the 17 Smart City Lighthouse Projects with the help of the qualitative content analysis has shown that only a narrow range of benefits are generated here. The focus is on sustainability in the broader sense and CO2 reduction and energy savings in the narrower sense. The energy system and the electricity distribution are high on the agenda too. Obviously, the EU see the greatest potential to generate a Smart City. The economic benefits related to ICT or IoT are low. It was actually expected that the Smart City strategies would also focus on these benefits, as there is a great potential in the form of economic benefits. It seems that the EU's guidelines are very narrow here and that the

framework does not allow it. The idea that follows is that the EU equates a Smart City with a sustainable city. None of the projects have brought the issue of e-government, which seems to be a national task from the EU's point of view. Here, too, the potential that could make administration more efficient in individual cities is missed. It is also critical to note that the EU documents and descriptions examined have remained very abstract. It is to be assumed, however, that the picture would not have changed significantly. It remains to be seen whether the economic benefits described have also been lifted. Here, too, the EU has developed as a control a complex reporting tool, which reports even more detail on progress. Expert interviews could also help to gain further insights regarding the economic benefits of SCI. Experts are associated with the direct implementation of the SCI, so they have more knowledge about the effectiveness of measures and their benefits.

Critical Discussion, Limitations & Outlook

The results presented throughout this paper directly refer to a specific group of projects – those connected to and funded by programs of the European Union. Thus, the results derived from this analysis have to be viewed through the lens of this general restriction, acknowledging that these Lighthouse projects – as the name already implies – do not necessarily yield effects comparable to those of less prominently developed projects. However, for the sake of the present analysis, such a restriction was necessary, as a broader lens of analysis might have led to stronger possibilities of generalization, while sacrificing the high level of internal validity and reliability obtained from the systematic approach utilized here.

It could further be shown that the topic of sustainability is indeed among the core considerations of the development of the Smart Cities referred to within this paper. This implies that the focus on greener and more sustainable cities, described by authors such as Paola and Rosenthal-Sabroux (2014) or Yigitcanlar and Kamruzzaman (2018), seems to be implemented strongly within the projects assessed throughout this paper. However, while this finding aligns with the overall expectations, it is recommended to consider them as a foundation for subsequent empirical work on the topic for future research. The results found here are based on descriptions of – outstanding – projects within the European Union. In order to present a more holistic assessment, additional resources will be necessary to showcase how far the development goals and the proclaimed benefits mentioned throughout these project descriptions are met in reality. This seems especially relevant towards the field of sustainability, thus to the most-often mentioned development goal of Smart Cities. By applying quantitative measures, (see Bell & Morse, 2012), future research on these projects should aim to assess how far the goals are met and whether the benefits of Smart Cities can be brought to their optimal reality.

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Leadership and Innovation - How Can Leaders Create Innovation-Promoting Environments in Their Organisations?

Marco Pister

University of Economics in Bratislava, Department of
Management, Bratislava, Slovak Republic

Abstract

Innovation is considered to be among the most relevant success factors for companies in the contemporary business environment. Thus, finding strategies and approaches to foster innovation becomes a crucial challenge for managers and leaders alike. The present paper aims to showcase, how the working environment shaped by the present Covid-19 crisis with its enforced work-from-home-setting influences innovation processes. Therefore, an extensive literature review is conducted, where in a first step the challenges of leadership within a telework-environment are established. The author therein explains the differences between classic approaches towards this mode of virtual collaboration and the pandemic-induced, often mandatory approach to telework utilized throughout the pandemic. This leads to a description of how – especially in times of the Covid-19 pandemic – innovation becomes even more crucial for organizations not only in the medical field, as they need to react to a changing environment and, accordingly, changing customer needs. Leadership challenges of finding ways to create and shape innovation-friendly work environments and organizational cultures given the limitations of the situation, are presented and critically discussed.

Keywords: leadership, organizational culture, openness and creativity, promoting innovation

Introduction

1. Problem Statement

The COVID-19 crisis led to significant changes both within the business environment and the societal life (Singh & Singh, 2020; Verma & Prakash, 2020). Working conditions shifted towards telework-models, as this research paper aims to showcase and explain, with this shift implying new challenges for leaders and employees alike (Bartsch, Weber, Büttgen & Huber, 2020; Caringal et al., 2021). Telework and work

from home, as Belzunegui-Eraso and Erro-Garces (2020) describe it as an adequate and governmentally mandated response to the pandemic, with extensive consequences. „The organization of work was profoundly disrupted during the COVID-19 pandemic, especially when the authorities decided to confine the population in order to contain the coronavirus“ (Dolce, Vayre, Molino & Ghislieri, 2020, S. 1). This situation is also intended to form the fundamental starting point for the present research work: The situation described by Waizenegger, McKenna, Cai and Bendz (2020) not only represents a challenge for employees themselves, but can also be perceived as correspondingly difficult for managers in this context. The implementation of these new working conditions, which are partly based on legal requirements, thus seems to require appropriate management approaches on the one hand and technical and digital prerequisites on the other, which have already been described as relevant by Kwon and Jeon (2020) with regard to the use of teleworking models per se.

The present work seeks to apply the findings in regard to leadership within the context of enforced telework to the topic of innovation. As the pandemic continues and subsequently working conditions remain influenced by the crisis and its countermeasures, innovation pressure on most organizations stays a competitive challenge (Argüelles et al., 2021; Iivari, Sharma & Ventä-Olkkonen, 2020). While authors such as Woolliscroft (2020) or Abi Younes et al. (2020) explain, that especially for the medical field innovation became imperative throughout the crisis, it can also be argued that the general necessity of innovation and of innovative business models remained unchanged or even strengthened over the course of the crisis (Lee & Trimi, 2021). Rather, with a gaze towards the increasing shift towards digitalized business approaches, not only in regard to collaboration but also to customer interaction (Karpen & Conduit, 2020), it can be argued, that the crisis led to a distinct increase in the need for innovation for most companies. This, however, seems complicated by the new working conditions, which require strong adaptive capabilities. The present work therefore seeks to foster understanding, how leaders can foster innovation not only within their general strategic approach, but also within the contemporary work environment shaped by a global health crisis and the subsequent *enforced work from home* (Waizenegger et al., 2020).

2. Leadership and Telework

Along with the general effects of the COVID-19 crisis on working life summarized in the introduction to this research paper, it is worth noting that the disruptions mentioned at the beginning of this article also compelled the use of home office and teleworking models: „Companies had to accelerate something they knew was imminent in the future, but not immediate and extremely humongous. This situation poses a huge challenge for companies to survive and thrive in this complex business

environment and for employees, who must adapt to this new way of working“ (Contreras, Baykal & Abid, 2020, S. 1).

This issue may be handled from a broad business viewpoint through the lens of economic statistics, but also via the lens of leadership conduct. As Contreras, Baykal, and Abid (2020) suggest, the widespread adoption of such work models needs the development of appropriate leadership techniques capable of upholding modern leadership ideals even in the event of solely digital communication. Telework may thus be viewed as an opportunity or an advantage for businesses who successfully use such a management strategy, even in light of the current economic crisis. Kirchner, Ipsen, and Hansen (2021) underline the need of businesses adapting to this new normal and establishing appropriate communication and cooperation forms capable of sustaining employee motivation and loyalty in this environment.

As a challenge, in addition to changing leadership roles, infrastructural aspects of telework should also be pointed out. Bouziri, Smith, Descatha, Dab & Jean (2020), for example, explain that health concerns need to be considered in the context of the crisis, which should be emphasized, for example, by referring to the health-promoting design of the workplace. In this regard, in many situations, especially at the beginning of the crisis, the necessary equipment at the home workplace was not always available, which would have enabled employees to continue working in an ergonomic way that was not harmful to their health. The health context, which must be taken into account in the context of the COVID-19 crisis, is also reflected with regard to mental health, the authors further argue: The crisis situation with its strong social and financial consequences for individuals also represented an increased stress experience for them in many cases, which can lead to corresponding stress-related consequences with regard to mental and physical health, as can be emphasized, for example, with reference to the job-demands-resources model. Within the framework of this model, Demerouti, Bakker, Nachreiner, and Schaufeli (2001) explain that the stress experience of a working person depends on the relationship between the available resources (e.g., support) and the demands. In this respect, the COVID-19 crisis seems to have had an unfavorable impact on both aspects of this model, since in many places the stress caused by the changeover to a new form of work is increasing, while some of the existing resources are disappearing. Managers must therefore succeed in taking these aspects into account as well.

Infrastructure, as mentioned in the introduction to this section, also refers to the necessary IT infrastructure that enables digital collaboration. In addition to the need for a fundamental technical infrastructure that permits such working models (see also the comments by Butcher-Powell, 2006, or Bélanger & Allport, 2008, with regard to the basic technological conditions of digital collaboration), the debate on cyber security and data security in particular becomes relevant in this context (Katsabian, 2020). Companies as well as their employees must ensure that data access to

necessary information is also possible in principle from the home office, although the security of the data to be transferred must not be jeopardized here. Older reports such as the Absolute 2019 Global Endpoint Security Trend Report (Ahmad, 2020) show that this is a difficulty, suggesting that a significant proportion of endpoints do not meet the necessary security standards, which seems to apply in particular to mobile devices and users' private endpoints. This only partially available and secure IT infrastructure represents an additional challenge for many companies and their personnel in dealing with the crisis, as Ollo-López, Goñi-Legaz, and Erro-Garcés (2020) also note, pointing out that the necessary environmental conditions must also be created when teleworking is introduced abruptly.

3. Innovation and its Precursors

3.1 New Business Models and Their Relevance

Innovation is often regarded as a critical engine of modern economies – and not only for start-ups (Atkinson & Mayo, 2010). Additionally, innovation is regarded as the most essential predictor of corporate success: inventive businesses are more successful on average, are more successful in the eyes of the public, and are more sustainably successful (Van der Panne, Van Beers & Kleinknecht, 2003).

Highly creative businesses are attractive not just to investors (Kochhar & David, 1996), but also to potential consumers and partners (Albrech, 2011). Tian and Wang (2011) begin their study article on innovation and fault tolerance by claiming that "innovation is vital for the long-run comparative advantage of firms" (p. 211). At the same time, the authors stress that innovation is difficult for the majority of organizations since it requires an innovation-friendly atmosphere and culture.

Of course, innovation is also connected with increased risk. As Albrech (2011) points out, the situation is particularly complicated for small and medium-sized firms (SMEs) (and consequently start-ups). On the one hand, as previously indicated, innovation is inextricably linked to success. On the other side, innovation is inextricably linked to financial risks, since new product creation is costly and continues to be so throughout the development process (Clark, Chew, & Fujimoto, 1987) – an insight that leads to Müller and Thoring's (2012) recommendation to fail early. This signifies early development failure, i.e. when less money is committed initially than afterwards. This also suggests the importance of current innovation procedures capable of providing developers with critical feedback early on. This is also demonstrated by the study of Hultink, Hart, Robben, and Griffin (2000), who discovered that for every successfully generated creative product or service, an additional 10 ideas or alternative concepts must be sorted out in advance. The vast number of failures necessary to achieve success demonstrates the vital nature of early failure: Only by early weeding out concepts that are highly improbable to succeed will a business be able to sustain these numbers.

3.2 Leadership and Innovation

According to authors such as Vullaluz and Hechanova, a company's inventive strength may be bolstered in particular by its prevalent leadership culture and corporate culture. Corporate culture may be impacted by a variety of factors, with writers such as Bolton, Brunnermeier, and Veldkamp (2013, p. 513 ff.) emphasizing the manager's conduct and arguing that managers may significantly contribute to establishing an organization's culture through their communication and value communication.

Corporate culture, in any case, is critical for managers, as demonstrated by Syafii, Thoyib, and Nimran (2015, p. 1142), who demonstrate that corporate culture is a critical variable that both reflects and impacts manager behavior. Transformational leadership may be defined as leading in this way (Bass & Riggio, 2010, p. 76). This leadership strategy tries to provide the best possible match between company values, ambitions, and objectives with the needs and motivations of people.

The establishment and maintenance of a complementary corporate culture is regarded in this context as a mediating factor between leadership and entrepreneurial outcomes, as demonstrated by the element of inventive strength (Shafie, Siti-Nabiha & Tan, 2014, p. 10 f.). Thus, the manager has a unique role to perform in terms of innovativeness: On the one hand, leadership conduct can have a direct impact on innovativeness; on the other hand, it may also affect the essential corporate culture, which may be regarded as a driving force in this context.

3.3 Innovation and The New Normal

As within the introduction of this research paper it was argued, working conditions have changes with the onset of the COVID-19 crisis. However, as Bailey and Kurland (2002) argue, telework or telecommuting is not necessarily a new phenomenon, which allows to draw from existing research on the relationship between telework usage and innovative capabilities. However, with a notion towards results such as the ones presented by Waizenegger et al. (2020) it can be noted, that the enforced usage of telework differs significantly from classical approaches.

According to Statista (2017), IBM has chosen to discontinue its campaign for telecommuting after several decades. According to Statista (2017), IBM's marketing manager explained this decision by arguing that teleworking and a lack of social interaction among employees will result in a loss of creativity and consequently innovation. According to a Statista (2017) report, this anxiety is likewise held by a large number of German businesses: 46 % of firms that do not already utilize telework express concern that implementing this work paradigm might result in a decline in creativity and innovation.

This is also backed by research such as Raghuram's (1996), which indicates that telework reduces the physical distance between employees, hence eliminating a significant portion of the opportunity for social interaction. According to the study,

this is followed by two basic changes: on the one hand, this, together with the ease with which information can be accessed online, raises the need for explicit knowledge. Simultaneously, the accessibility of implicit and tacit information, which is acquired through (informal) conversation in particular, declines.

Contrary to these perceptions, Standen (2000) shows that organizations that rely on telework have an above-average emphasis on creativity and innovation. Additionally, Vega, Anderson, and Kaplan (2014) note that telework often results in an increase in creativity: The authors demonstrated through an actual study that employees who shifted from standard working circumstances to teleworking were able to boost their creative output. This was notably obvious in objective measures of creative problem-solving skills, but not in the examined employees' subjective self-assessments.

The authors suggest, based on their study of government personnel, that the rather conservative culture of the company analyzed helped to demonstrate such creativity gains: While employees were more confined by bureaucracy and restrictions in the workplace, they were more equipped to handle problems creatively outside of this constricting setting. As a result, Vega, Anderson, and Kaplan (2015) conclude that managers would be wise to take advantage of the following telecommuting benefits: Allowing workers to work from home for some jobs, particularly when it comes to the creative processing of difficult problems, might be beneficial.

4. Critical Discussion

Teleworking models – as shown in section 2 – are generally not a novelty that have grown out of the context of the COVID-19 crisis. At the same time, however, as Kircher, Ipsen and Hansen (2021) point out, the abrupt spread of this model nevertheless posed a challenge for companies. It should also be noted that the necessary conditions for the successful implementation of such working models appear to be only partially in place. In this context, reference should be made to Snyder (2012), for example, who points out that the leadership of employees without physical contact with them is fundamentally to be distinguished from classic leadership and thus requires a corresponding set of conditions, which are needed to ensure the quality of leadership nonetheless. If this is not possible or if even destructive leadership approaches are utilized, telework cannot be established as a successful model of collaboration.

Different terminologies seem to have been established in the literature for the current use of telework as an aspect of crisis management in the COVID-19 context: Waizenegger, McKenna, Cai, and Bendz (2020), for example, speak of enforced work from home, while Dolce, Vayre, Molino, and Ghisliero (2020) choose the term emergency telework to describe current working conditions. Basically, this already shows the ad-hoc character of current use, although in this context a distinction should be made between those companies that already had established telework structures (as described by Brumma, 2016, for example) and those that were only able to implement the prescribed use of telework as an emergency strategy in the

context of the COVID-19 crisis. It also seems to depend on the extent to which the implementation can be described as successful - although authors such as Brumma (2016) or Mahler (2012) state that telework generally brings a number of benefits for companies and employees, it should also be noted that not every type of telework actually leads to such results. Synergy and savings effects, such as those typically found in the literature, seem to occur only when the right conditions are implemented (Miglioretti, Gragnano, Margheritti & Picco, 2021).

Regarding the further development of telework, two basic perspectives have to be adopted: On the one hand, by referring to the descriptions of societal developments presented in Section 2.1 (Brumma, 2016), which led to the emergence of non-emergency telework, it can be argued that this work model is likely to become increasingly relevant even independently of the development of the pandemic. On the other hand, with reference to research findings such as those of Belzunegui-Eraso and Erro-Garces (2020), it must of course also be noted that the context of the pandemic represented a significant disruption in the continued growth of this model. It thus remains unclear to what extent the further course of the pandemic and the economic crisis accompanying it will continue to shape the telework model. The current situation, which is characterized by an ongoing and persistent lockdown or by the continuing recommendation to avoid physical contact, seems to imply that companies must continue to succeed in implementing telework models and the management approaches that go hand in hand with them.

The results showcased throughout this article indicate, that telework does not only pose challenges towards general leadership, but also to innovation and innovation related practices. Telework, as this research paper showed, can both lead to favorable and less optimal results in regard to the innovation capabilities of companies, with the effect strongly depending on leadership approaches and the corporate culture created. While these results from *classic* telework approaches already paint a complex picture regarding the effect of such collaboration models on telework, the relationship seems even more complex in the light of enforced telework. As in many cases the necessary leadership and communication requirements for a successful and satisfying telework or work-from-home experience could not be created in time (Jesus, Landry & Jacobs, 2020), it can be assumed, that innovation capabilities might not always be fostered to a satisfactory degree. This seems especially problematic in the light of a disruptive situation, which in many fields requires a strengthened level of innovation: while this becomes most obvious within the medical field, where authors such as Woolliscroft (2020) point out the strongly increased relevance of the development of new products, services and approaches in order to combat the crisis itself, research such as the one conducted by Seetharaman (2020) points out, that the societal and business related changes brought by the COVID-19 crisis require a majority of companies to re-think their business models and business approaches, thus requiring a strong focus on innovation and development. However, it becomes

evident within the present analysis, that the working conditions resulting from the crisis can be a challenging factor in fostering innovation.

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A Demographic Study of the Multidimensional Poverty of Women in India

Ramya Rachel S.

Assistant Professor, Research Centre and
Department of Economics, Lady Doak College, Madurai, India

Abstract

Foremost in the Sustainable Development Goals (SGDs) of the 2030 Agenda, is the goal of achieving “No Poverty”. With nearly a decade yet to go, it is imperative to know the true nature and extent of poverty so that steps can be taken to eradicate poverty in all its forms. Multidimensional Poverty is a problem that persists on a larger extent in a developing country such as India, particularly among its women. The study uses the Demographic Health Survey data – India’s National Family Health Survey (NFHS), a nationwide survey conducted with a representative sample of women aged 15 to 49 throughout the country, to shed light on the nature and extent of deprivations faced by them. The deprivations faced by the women are measured along the dimensions of education, health and standard of living as per the global Multidimensional Poverty Index (MPI) jointly developed by UNDP (United Nations Development Program) and Oxford Poverty and Human Development Initiative (OPHI). Findings reveal that one-fifth of women in India are multidimensionally poor. Further subgroup decomposition reveals that higher levels of deprivations are found in women living alone, with higher age, having more number of children, widowed or divorced, husbands having multiple wives, those having more than one union and married before the legal age of marriage. The Government needs to focus its attention on the most deprived groups of women. Based on the nature and the extent of deprivations that they face, appropriate measures must be taken to bring them out of their destitution.

Keywords: multidimensional poverty, deprivations, sub-group decomposition, Indian women

Introduction

A life without dearth of wants and needs is the ultimate goal of every individual. Still, millions of people struggle for a life without deprivation of basic needs. The first goal of the 2030 Agenda of the Sustainable Development Goals is to achieve “No Poverty”.

With a decade yet to go, it is imperative to know whether nations are equipped with the right tools to eradicate poverty from its roots. It is necessary for Governments to realise the true nature of poverty, its incidence and intensity by measuring poverty in a way which can reflect the plight of people. Policy responses to eradicate the problem should take a multidisciplinary approach addressing the basic necessities of humans such as education, health care and access to proper living conditions. It shifts the focus of analysing poverty from a monetary perspective to reflect the livelihood of the poor based on their education, health and standard of living. According to estimates of the 2018 global Multidimensional Poverty Index released by the United Nations Development Program (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI), in 2015-16, within a decade, India halved its poverty rate. But it still houses the second largest amount of the world's poor. (UNDP, 2018)

Women in developing countries are more likely to be poor than men (OXFAM), particularly in a patriarchal society. In a country with more than three-fourth of its women being economically dependent on men, (Dixon, 2018) there arises a need to view poverty through a gendered lens. The household level approach to studying poverty assumes that all family members' incomes and resources contribute to the well-being of every individual in the household (World Bank Institute, 2005). It seldom projects the gender inequality in allocation of economic resources, particularly in access to education and proper health care. The deprivations that women in the working-age face must be brought into light as they have children to support, particularly when their access to economic resources are limited. Therefore, the study seeks to understand the nature of poverty of women aged between 15 to 49 from a demographic perspective.

Background

Eradicating poverty has been the focus of many policies taken by the Government but its successful accomplishment has been uncertain. The World Bank defines Poverty as "low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life." Basically, poverty is the deprivation of many imminent needs.

As the approach to poverty has become multifaceted, its measurement has, in many dimensions, gathered momentum. Studies on multidimensional poverty show that the income poverty misses out on the deprivations that the poor face. A study by Wang, Fang, Xia and Alkire on the rural households in China (Xiaolin Wang, 2016) shows that, according to the national poverty line, 67.79 per cent of poor households are lifted out of income poverty but they are in vulnerable (28 per cent) or ordinary (38 per cent) or extreme (1.69 per cent) multidimensional poverty. Therefore, in poverty identification, income can hardly capture the comprehensiveness and

complexity of poverty. Hence, multidimensional measurement is vital not only to know the level of poverty, but also to understand its nature.

The dimensions of poverty to be studied must be declared clearly. Studies on multidimensional poverty have focussed on the level of education attained by the women as a measure of poverty. A substantial poverty reduction can be made when the household members are educated. A study on education and poverty has found that as the level of education lowers, the poverty level becomes higher (Bici, 2017). The health of women also is a significant concern, the deprivation of which would lead to a detrimental condition of life. Studies show that the health of the women have been declining over the years. Women need to have good health so that they can support their families better. Studies also show a high correlation between the health and the level of poverty of women (Ngoma, 2017). Standard of living also is a good indicator of poverty. A household earning enough to feed a family but living under a leaking roof would mean that the household is under poverty.

Since the basic needs for survival are multiple in numbers, it is an outright necessity to check if the number of people who face that deprivation is worrisome. Therefore, it is important to study the dimensions of education, health and standard of living with respect to demographic factors to measure the poverty of women and identify the ones in imminent need of policy action. The present study focuses on studying the deprivations faced by women on these aspects. Past studies' focus on demographic variables as factors of multidimensional poverty is very limited. The study therefore overcomes this research gap and analyses the multidimensional poverty among various demographic sub-groups.

The objectives of the study are to

know the deprivations faced by the women aged between 15 and 49 in India

find the incidence and intensity of multidimensional poverty among the women

analyse the multidimensional poverty of the women in India among various demographic sub-groups

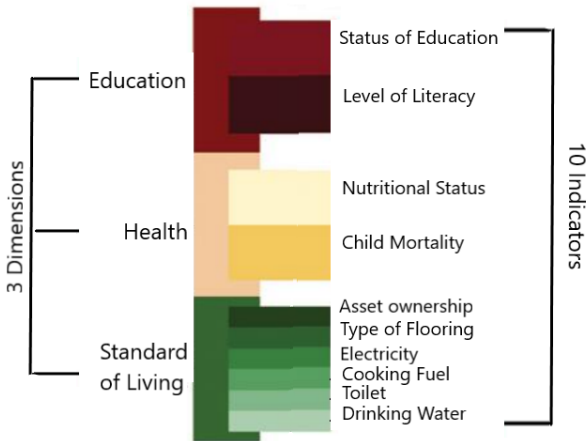
identify critical sub-groups of women that face high level of multidimensional poverty

Methodology

The study uses the Demographic Health Survey data – India's National Family Health Survey (NFHS), a nationwide survey conducted with a representative sample of households throughout the country. A total of 628,900 households were selected for the sample, out of which, interviews were completed with 699,686 women aged 15-49. The global Multidimensional Poverty Index (MPI) jointly developed by UNDP (United Nations Development Program) and Oxford Poverty and Human development Initiative (OPHI) has been used to measure multidimensional poverty of these women. STATA /IC 16 was used to analyse the data from the survey. The

deprivations faced by the women are measure along the dimensions of education, health and standard of living. The indicators selected under each dimension have been outlined in figure 1. Equal weights are given for each dimension. The indicators under each dimension were also given equal weights. Weighted deprivation scores will be calculated for the women. If the deprivation score is one-third or above, the women are under multidimensional poverty.

Figure 1: Composition of MPI – Dimensions and Indicators



Source: Global MPI of UNDP and OPHI - modified for study

The global MPI has been used to measure poverty with few changes. The dimension of education in the global MPI entails their educational attainment and literacy, where the woman is deprived if she has no education and cannot read or write respectively. Studies show that these two do not go hand in hand and that a considerable number of women who were educated could not read or write. They are equally important to assess the level of education of women. In the dimension of health, the indicators of women’s deprivation include nutritional status, i.e., Body Mass Index is less than 18.5 kg/m² and Child mortality i.e., they have lost sons or daughters. The dimension of Standard of living includes Asset Ownership i.e. women’s household has less than 2 small assets - TV, radio, fridge, bike, motor, telephone and no car/truck, Type of Flooring i.e. household has a dirt, sand or dung floor, availability of electricity, Cooking fuel i.e. dung, wood, charcoal or coal is used as cooking fuel, availability of improved toilets and availability of improved drinking water i.e. no access to improved drinking water or if water is at more than 30 minutes’ walk.

Alkire Foster method has been used to measure the incidence and intensity of Multidimensional Poverty. (Alkire, 2011) The women are classified as multidimensionally poor and non-poor on the basis of their weighted deprivation scores. The incidence is expressed as the multidimensional headcount ratio (H):

$$H = \frac{q}{n}$$

Here q is the number of people who are multidimensionally poor and n is the total population. It is the proportion of women under multidimensional poverty.

The intensity of poverty (A) is the average deprivation score of the multidimensionally poor people and can be expressed as:

$$A = \frac{\sum_{i=1}^n c_i(k)}{q}$$

Here, $c_i(k)$ is the censored deprivation score of individual i and q is the number of people who are multidimensionally poor. The MPI is the product of both: $MPI = H \times A$.

After the MPI is calculated, the deprivations of the non-poor will be censored as the focus is on the women who are multidimensionally poor i.e., the sum of weighted deprivation score of each indicator is one-third or more of total possible deprivations. On this ground, the incidence of poverty can be explained by the **Censored Headcount Ratio**, which is the proportion of women who are **poor and deprived** in each of the indicators. It also shows an accurate magnitude of deprivation of the poor in each indicator.

The contribution of each indicator to the MPI has also been calculated to identify the area of deprivation that needs immediate policy attention. The percentage contribution of each indicator to MPI is calculated as:

$$\text{Contribution of indicator } i \text{ to MPI} = \frac{w_i CH_i}{MPI} * 100$$

Here w_i is the weight of indicator i and CH_i is the censored headcount ratio of indicator i . Whenever the contribution of an indicator is higher than its weight, this suggests that there is a relative high deprivation of this indicator. The poor are more deprived in this indicator than the others.

MPI then is decomposed by population sub-groups of age, religion, marital status, and family size and the number of children, to find out the level of incidence and intensity of poverty among the sub-groups.

Furthermore, the incidence of multidimensional poverty has been analysed for specific critical demographic sub-groups of women to understand the development issues faced by these women. Critical sub-groups have more than 50 per cent of the population under multidimensional poverty. The factors considered for critical sub-group analysis include demographic factors such as age, family structure and role, marital status and fertility preferences.

Findings and Discussions

Deprivations Faced by Women

Women experience adverse livelihood conditions in developing countries. The amount of deprivations they face often goes unnoticed or ignored. The study has found the level of deprivation faced by the women in India in each indicator.

Deprivations in the Dimension of Education

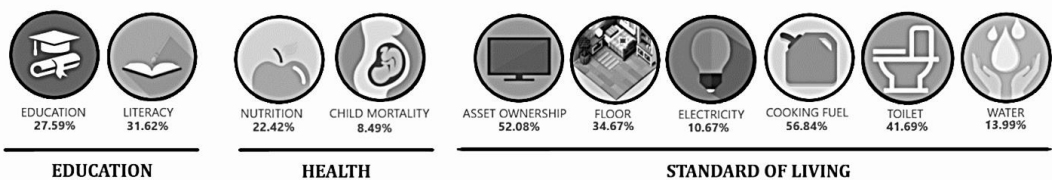
Status of Educational Attainment

The study finds that in India, 27.59 per cent of the women aged 15 to 49 are deprived of any education at all. Women are burdened in a society that does not recognise their need for basic education on the assumption that their role resides inside the walls of the house and that they will be economically dependent on their partners. In a country where such a notion is widespread, women tend to have lesser access to the means to get a life-sustaining employment when the economic need arises. Women's education is not given its due importance in such a condition and these families do not educate girls if they cannot afford it or just because the educational institution is too far away. They would rather vouch for her a better living if they can marry her off to a family by paying a sufficient dowry.

Level of Literacy

It is also a matter of concern that 31.62 per cent of the women do not know how to read or write. Women are trained from a young age to assist their family with the household chores but not in learning or doing well in schools. There is an urgent need to improve the literacy of women so that they are neither deprived nor cheated of anything and so that they are empowered to participate in the decision making for the household.

Figure 2: Deprivations faced by women aged 15 to 49 in India



Source: NFHS 2015-16

Deprivations in the Dimension of Health

Level of Nutrition

The health conditions of the women also need to be taken into account. Women with poor health conditions will not be able to perform their day-to-day duties with ease.

Finding shows that 22.42 per cent of the women have a Body Mass Index of less than 18.5 kg/m³. According to the World Health Organisation, these women are malnourished. Poor physical health among adults leads to adverse health outcomes in future which translates into a poor standard of living. Working aged women need better nutrition in order to function at their homes, workplaces and in the society. Malnutrition hampers the efforts of women at various aspects of their lives.

Child Mortality

Child mortality is a major problem faced but the level of deprivation is relatively low compared to other indicators. About 10 per cent of women have lost sons or daughters. Studies have shown higher levels of child mortality among poor women (WHO, 2019). This has been attributed towards unaffordability and inaccessibility to proper health care facilities and also due to the inattention to health care and unconcerned health seeking behaviour of the women.

Deprivations in the Dimensions of Standard of Living

Standard of Living

Many women do not have a proper standard of living. Women in poverty are subject to a lower standard of living. Many women live in unsuitable housing conditions and do not have any access or ownership to assets. Policy decisions must ensure decent living conditions of women as a right to have adequate standard of living including access to nutritious food, clean water, proper cooking fuel, electricity and toilets.

Asset Ownership: 52 per cent of women do not have access to basic consumer durables such as TV, radio, fridge, bike, motor, telephone and no car/truck. Moreover, an additional finding reveals that a staggering sixty per cent of households of the women do not have ownership to neither a house nor land. Among the households that own house(s) or land, only 27.9 per cent of women do not have joint ownership and own house(s) or land alone.

Flooring: The type of flooring is an indicator of poverty as dirt floors reflects the inability and unaffordability of household to get a proper cemented flooring. Findings reveal that 34.67 per cent of women still live in houses that have dirt floors.

Electricity: Poor households do not have proper access to electricity and electrification does not necessarily ensure that there are no frequent blackouts and maintenance problems. Despite the Government's measures to bring affordable electricity to low economic households, study finds that ten per cent of the households do not have access to electricity.

Cooking Fuel: It is appalling to find that still more than half of women cook with dung, wood, charcoal or coal. They cannot afford an LPG cylinder.

Availability of Toilet: There are no improved toilets of nearly 40 per cent of the women's households. Improper sanitation facilities need to be checked to ensure health and hygiene amongst the members of the family.

Availability of drinking water: Deprivation of water resources is also a major problem faced in developing countries. Many households do not have access to clean and safe drinking water, leading to constraints on a healthy lifestyle. Study finds that 14 per cent of Indian women face a dearth of drinking water. Even if drinking water is available, these women need to travel for more than 30 minutes to get the water.

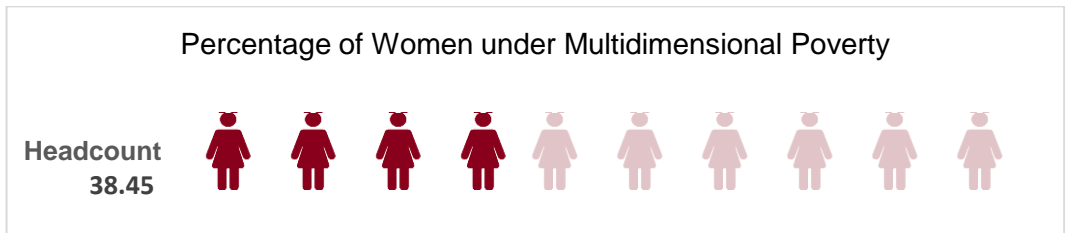
On the whole, the study finds that women face high levels of deprivation of basic necessities. The deprivations the women face have been outlined in figure 2. The women face the highest levels of deprivation in cooking fuel and in the ownership of assets like TV and radio.

Incidence and Intensity of Multidimensional Poverty

How many are poor?

Using Alkire-Foster Methodology, the Headcount Ratio (H) has been calculated. The percentage of women aged 15 to 49 under Multidimensional Poverty has been found to be 38.44. These women have deprivations in one-third or more of the indicators. More than one-third of the total women aged 15 to 24 in India are multidimensionally poor.

Figure 3: Incidence of Multidimensional Poverty among Women in India aged 15-49



Source: NFHS 2015-16

How poor are they?

It is important to understand the amount of deprivation the poor women face. The intensity of deprivations faced by women paints a clear picture on this aspect. The intensity of multidimensional poverty has been found by the average deprivations that the MPI poor women face. On an average, the multidimensionally poor women are deprived in 52.53 per cent of the weighted indicators.

Level of Multidimensional Poverty

Therefore, taking into account the depth of poverty, the MPI (M_0) has been estimated to be 20.19 per cent which shows that the multidimensionally poor women face 20

per cent of all deprivations if all women aged 15 to 49 were poor and deprived in all dimensions and indicators. The proportion of weighted deprivations the poor women experience in society out of all the total potential deprivations that the society could experience.

4.3. Sub-Group Decomposition of the Multidimensional Poverty of Women

Who is poor?

In order to identify who the poor are, the poverty of the women in the study has been decomposed into various demographic sub-groups. The classifications are based on age, religion, marital status, and family structure. The incidence and intensity of Multidimensional Poverty among the women aged 15 to 49 have been calculated and shown in Table 2. This shows the level and depth of poverty among each group of the population.

Table 2: Incidence and Intensity of Multidimensional Poverty among Women

<i>BASIS</i>	<i>CLASSIFICATION</i>	<i>INCIDENC E: Headcount</i>	<i>INTENSITY: Average Deprivation</i>	<i>MPI: Adjusted Headcount</i>
<i>Age</i>	<i>15 to 24</i>	<i>27.35</i>	<i>46.89</i>	<i>12.82</i>
	<i>25 to 40</i>	<i>40.38</i>	<i>54.4</i>	<i>21.97</i>
	<i>41 to 49</i>	<i>54.16</i>	<i>54.28</i>	<i>29.4</i>
<i>Religion</i>	<i>Hindu</i>	<i>39.16</i>	<i>52.88</i>	<i>20.71</i>
	<i>Muslim</i>	<i>40.26</i>	<i>51.36</i>	<i>20.68</i>
	<i>Christian</i>	<i>22.9</i>	<i>50.11</i>	<i>11.47</i>
	<i>Other religions</i>	<i>20</i>	<i>45.38</i>	<i>9.08</i>
	<i>No religion</i>	<i>46.74</i>	<i>55.54</i>	<i>25.96</i>
<i>Marital Status</i>	<i>never in union</i>	<i>22.85</i>	<i>43.75</i>	<i>9.99</i>
	<i>married</i>	<i>42.37</i>	<i>53.91</i>	<i>22.84</i>
	<i>widowed</i>	<i>58.93</i>	<i>54.34</i>	<i>32.03</i>
	<i>divorced</i>	<i>38.11</i>	<i>52.75</i>	<i>20.1</i>
	<i>no longer living together</i>	<i>50.04</i>	<i>52.89</i>	<i>26.47</i>
<i>Size of the Family</i>	<i>1</i>	<i>56.09</i>	<i>55.42</i>	<i>31.09</i>
	<i>2</i>	<i>43.6</i>	<i>53.37</i>	<i>23.27</i>
	<i>3</i>	<i>35.02</i>	<i>52.09</i>	<i>18.24</i>
	<i>4 to 5</i>	<i>35.59</i>	<i>52.19</i>	<i>18.57</i>
	<i>6 to 10</i>	<i>42.16</i>	<i>53.02</i>	<i>22.35</i>
	<i>>10</i>	<i>38.17</i>	<i>51.31</i>	<i>19.59</i>
	<i>0</i>	<i>24.92</i>	<i>46.1</i>	<i>11.49</i>
	<i>1</i>	<i>28.32</i>	<i>51.63</i>	<i>14.62</i>

<i>Number of children</i>	2	33.03	51.5	17
	3	54.29	53.98	29.3
	4	69.84	56.57	39.51
	5	81.07	59.04	47.86
	> 5	89.45	60.11	53.77

Source: NFHS 2015-16

Decomposition based on Age

Women aged 15 to 49 have been classified as young adults (15 to 24), adults (25 to 40) and middle aged (41 to 49). The findings indicate that the incidence of poverty is higher among the ages 41 to 49. The poverty seems to be higher among women of higher age groups and they face higher levels of deprivation. 27 per cent of young women are under poverty. But the rates are much higher for the women above the age of 25. The intensity of poverty also seems to increase by age. Adjusted Headcount Ratio (M_0) has been found to be highest among the middle aged at 29.4 per cent, 22 per cent among adults and relatively low among young women at 12.83 per cent. There is an inverse relationship between age of the women and the level of multidimensional poverty.

Decomposition based on Religion

Religious beliefs, culture and customs also play a wide role when it comes to poverty. Women have different gender roles dictated by their religion whose effects on women can be seen in the form of poverty. The incidence of poverty is highest among women who do not belong to any religion. The women who belong to the religions of Hinduism and Islam face the highest amount and depth of poverty. Only 23 per cent of Christians are subject to multidimensional poverty. Women who belong to other religions like the Sikhs, Zoroastrians, Buddhists, Jain and Jews also face relatively lower incidence of poverty.

A closer look at the indicators that women were deprived of, revealed that the percentage of Hindu and Muslim women who were deprived of education was around 30 per cent in both status of education and literacy level. However, it was 16 per cent for Christian women and nearly 15 per cent for women of other religions.

Decomposition based on Marital Status

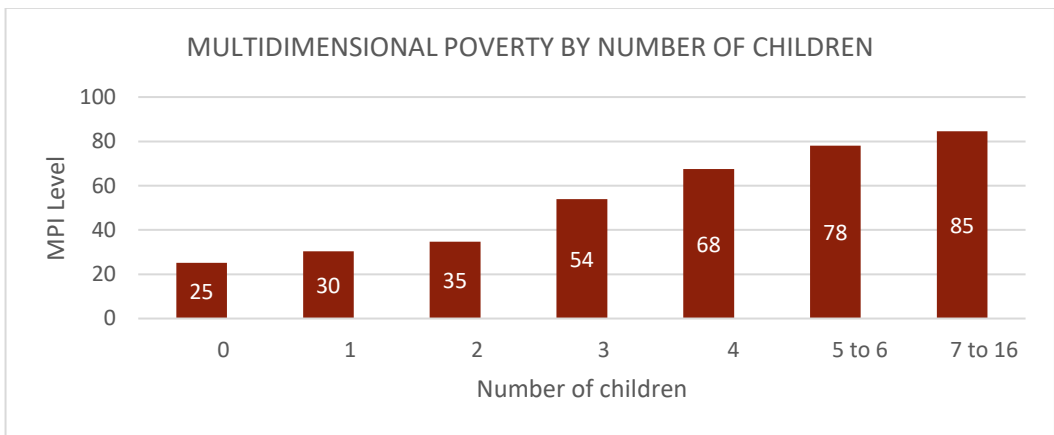
Marital Status has much to do on poverty. Women who are married face higher levels of poverty. Marital Status speaks a lot on the dependence of women as well. Among the unmarried women, 23 per cent identify as under multidimensional poverty. It is the least among women who were widowed. The intensity of poverty of women who are unmarried is the least while that of the women at married, widowed or separated is around 50 per cent.

A closer look at the poverty level by marital status reveals that 38 per cent of women who are widows face severe poverty with deprivations more than 50 per cent and 20 per cent of widows face deprivation of 33 to 50 per cent.

Decomposition based on Family Structure and Roles

There is a high incidence of poverty on women living alone. More than half of the women living alone are under poverty with the highest intensity. As the family size gets bigger, the intensity reduces as there are more members in the family to support the family. However, this applies only if there are a greater number of adults.

Figure 4: Multidimensional Poverty by Number of Children in the Household












Source: NFHS 2015-16

As the number of children in the family increases, their incidence as well as the intensity of poverty has increased perpetually. When there are no children in the family, women are deprived by less than 25 per cent. Among women living with one or two children, incidence of poverty is around 30 per cent. For each child above two, the incidence of poverty amongst the households increases by more than 10 per cent. Among the households more than ten children, nearly 90 per cent live in poverty with 70 per cent under severe multidimensional poverty. These women are deprived in more than 50 per cent of total deprivations.

4.4 Critical Sub-Groups

The study further analysed the incidence of multidimensional poverty for specific critical demographic sub-groups of women to understand the nature of issues that hinders women's development. Critical sub-groups have more than 50 per cent of the population under multidimensional poverty. The factors considered for critical sub-group analysis include demographic factors such as age, family structure and role, marital status and fertility preferences.

Table 3: Multidimensional Poverty among Critical Sub-groups

<i>Sub-group</i>		<i>Number of Women</i>	<i>Women under Multidimensional Poverty</i>
	<i>Age > 41</i>	118,897 (17.9)	66,732 (54.16)
	<i>Husband has additional wives</i>	7431 (1.58)	4,739 (63.77)
	<i>More than one union</i>	9425 (1.89)	4912 (58.55)
	<i>Marriage before the legal age</i>	268,652 (56.9)	139,489 (51.92)
	<i>Household Heads</i>	37,034 (5.60)	22,283 (60.17)
	<i>Living Alone</i>	2227 (0.34)	1,249 (56.09)
	<i>Living alone with children under five years age</i>	1647 (0.25)	984 (59.57)
	<i>Early pregnancy</i>	146,418 (32.43)	80,529 (55)
	<i>Unwanted Pregnancy</i>	1,539 (5.23)	885 (57.47)

Note: Figures in brackets represent percentages

Source: NFHS 2015-16

The study has identified the above categories have more than 50 per cent of women under multidimensional poverty. The highest sub-group were the women whose husbands have multiple wives with 63.8 per cent of them under poverty. The income in such a household would be diverted amongst the family and a higher proportion of these women are prone to experiencing multidimensional poverty.

Among women who had more than one union, 59 per cent were under poverty. Women in India are given in married early. They do not therefore complete their

education and women who complete professional education stay at home if their families demand it or because they do not need it. Women who marry early before the legal age of 18 years tend to be deprived of education and also employment, making them less empowered, not only to contribute to the economic situations of the family, but also to major decisions taken in the family. More than half of married women were married before the legal age and more than half of them were under poverty.

Further analysis reveals the incidence of poverty among family structure and roles played by women bring into light certain critical sub-groups like female household heads, women who are living alone and women living with children under five years old. These women have high incidence of poverty as shown in table 6. Women living alone have no one to depend on financially and tend to fend for themselves. These women account for 0.34 per cent of women. More than half of the women living alone face deprivations of more than one-third of the indicators. Women with infants have more mouths to feed with the meagre amount of income they get. Sixty per cent of women who are living alone, with children under five years of age, have prevalence of multidimensional poverty. Such high levels of poverty need to be checked. Women with less education and low employment opportunities experience lesser quality of life as they are pushed into becoming the primary breadwinners without the resources and training needed to join the workforce. Therefore, these women who assume family roles such as the Female headed households are necessarily poorer and suffer from vulnerabilities when compared with those of male headed households (Gangopadhyay and Wadhwa, 2003). The study finds that female household heads who are these women are only 5.6 per cent of the women population, among whom sixty per cent are under poverty. Among these, only 44 per cent own houses and only 25 per cent owns land.

Fertility preference also is an important factor to identify critical sub-groups. Women with early or unwanted pregnancy are found to have a sizeable share of women under multidimensional poverty. These women at their early stages of life need to have proper livelihood and could be stuck in a poverty trap by having children early in life. Women with unintended pregnancy also tend to have higher poverty levels, with additional unplanned expenditure to meet their financial and economic needs of taking care of children.

The above identified sub-groups have higher proportion of women under multidimensional poverty and require Governmental policy action on their part to safeguard their rights to lead a decent livelihood and to ensure that they are not trapped in a never-ending cycle of poverty.

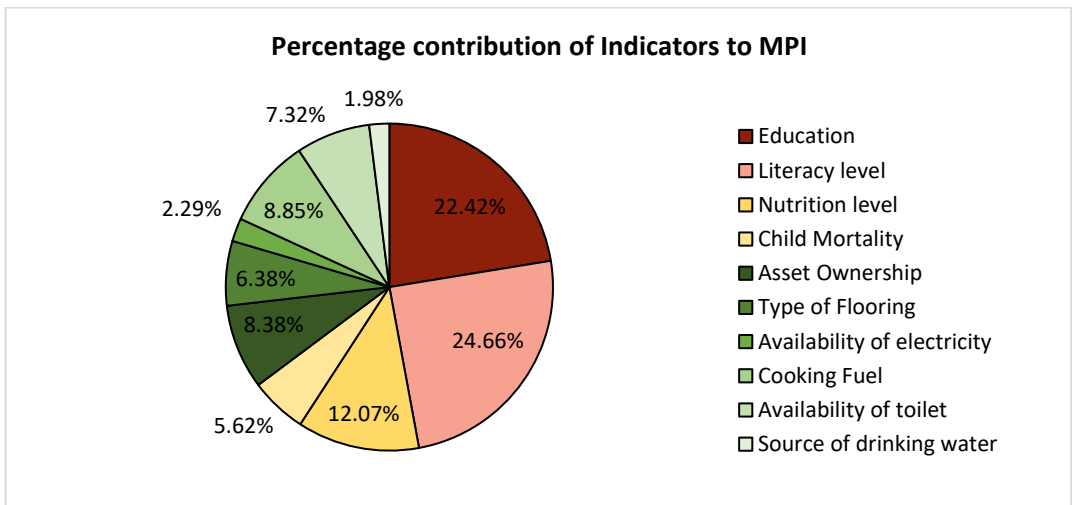
4.5 Target Dimensions - Dimensional Breakdown of the MPI of Women Aged 15 to 49

The women under multidimensional poverty are those whose deprivations exceed one-third of total deprivations. However, to make policy decisions, it is vital to note

where the deprivations are the highest and which indicators constitute the most to poverty of the women. The percentage contribution of each indicator to MPI shows the perpetuation of particular indicator on the level of poverty among the women.

The study finds that literacy level is the highest contributor to the Multidimensional Poverty of women aged 15 to 49, followed by the attainment of education. The Government must focus on providing proper education to the women. Figure 2 shows the contributions of each indicator.

Figure 5: Percentage Contribution of Indicator to the MPI of women



Source: NFHS 2015-16

Literacy and Education are the major indicators contributing to MPI followed by nutrition level. All these indicators are interrelated and have a negative impact on MPI. Higher the level of literacy and Education, higher will be the level of awareness of nutrition leading to better health conditions, thus leading to higher earning capacity, which in turn reduces the level of MPI.

The study also points out that the poor standard of living of women highly contribute to the overall MPI and is responsible for nearly 35 per cent of poverty of these women, exceeding the level of deprivations from the dimension of health i.e., the indicators of nutrition level and child mortality. This necessitates a higher and more immediate policy action on educating women and improving their living standards by a considerable amount in order to remove them from experiencing poverty in multiple dimensions.

Conclusion

Findings reveal that women in India still face high levels of deprivations in various dimensions. Shockingly, 27.59 per cent of women lack basic primary education, 31.62

per cent do not know how to read or write, 22.42 per cent are subject to malnutrition and 8.49 per cent have sons or daughters who died. The standard of living of these women is also poor with 52.08 per cent deprived of ownership of assets, 34.67 per cent have mud or dirt floors, 10.67 per cent have no access to electricity, 56.8 per cent still cook with firewood, 41.69 per cent do not have proper sanitation facilities and 14 per cent lack proper sources of clean drinking water. Much is needed to be done by the Government and policy makers in these areas. They need to focus on empowering women by providing them access to proper education. Focus needs to be on the quality of education that they provide as the study has found that women who attend schools still do not know how to read or write basic sentences.

The level of nutrition, particularly among young women, has reached low points. Malnutrition of women has many ill-effects that manifests on the lives of the future generations. If the workforce of tomorrow is not healthy, the economic position is doomed to fail. Finally, care must be given to the standard of living of the women, especially the ones living in rural areas of the country. The development of the nation rests in the hands of its women. The Government needs to revitalise the female labour force, training them in suitable fields so that they can contribute to the household and to the society at large.

The Government needs to micromanage the bottom one per cent of the women who are under extreme poverty in order to bring them out of their destitution of all the indicators. Basic Needs analysis must be done to identify their needs and provide them the proper incentives like education and training to bring them out of poverty.

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Towards Unified Literature Representations: Applications in Information Systems and Entrepreneurship Research

Massimo Albanese

Department of Economics and Business Studies – University of Genoa

Abstract

Research activity is becoming increasingly complex due to the nature of research topics and questions. Among the essential academic research activities are literature reviews (LR), as they support the advance of the knowledge frontier. To improve literature reviews and their understanding, it would need to have comprehensive literature representations. In this perspective, the paper aims to advance previous work by illustrating a new way of creating thorough literature representations. The proposed tool is innovative and versatile since authors can adopt it in different types of LRs. Its adoption implies the construction of a three-dimensional scheme for the classification of the literature to be analysed. Then, based on the latter and selecting suitable evaluation variables, the proposed approach produces informative multidimensional representations for literature mapping and bibliometric analysis. For exemplifying this, the paper provides two application cases concerning Enterprise Resource Planning (ERP) systems and entrepreneurship research.

Keywords: literature review methodology, multidimensional representation, information systems, entrepreneurship, citation analysis.

Introduction

Academic research has grown significantly during the past decades (Rivest *et al.*, 2021; Vincent-Lacrin, 2006). This trend is due to several causes like the development of new technologies and needs, climate change, financial crises, pandemics, the growth in the research capacity, internationalisation of academic research, university-industry collaborations, changes in research evaluation systems and funding, etc.

Research projects and topics have become more complex and multifaceted, so researchers need suitable approaches, methods and tools to deal with this complexity. Disciplines evolve and, their body of knowledge tends to increase. It occurs in different areas, as in social sciences (Klein, 2007). Nevertheless, there is an increase

in the debate on the limited capacity of traditional research to cope with a share of emerging societal challenges (Felt *et al.*, 2016). In this sense, Okamura (2019) found that an increase in the interdisciplinary level of researchers raises the research impact. It has induced a more cross-disciplinary engagement and the inclusion of societal actors, so the knowledge production did not just follow disciplinary structures and institutional logic (Funtowicz and Ravetz, 1993). In particular, issues in healthcare, sustainable development goals, new technologies, etc., imply complex problems of which analysis often requires a transition from discipline-oriented to inter and transdisciplinary approaches (Lavery, 2018; da Rocha *et al.*, 2020). For instance, O'Dwyer and Unerman (2014) argued on benefits of moving toward an interdisciplinary approach in accounting. Indeed, integrating different perspectives and knowledge may produce innovative insights like in green accounting (Bebbington and Larrinaga, 2014) or (accounting) information systems studies (Kroeze and van Zyl, 2014; Woodside *et al.*, 2020). Similar considerations arise in management as an academic field. Given its multi-disciplinary nature (Knights and Willmott, 1997), we can detect this in several traditional sub-fields and topics like knowledge management (Jones, 2008), innovation management (Hacklin and Wallin, 2013), entrepreneurship (Ripsas, 1998; Zaheer *et al.*, 2019), etc.

As a result, modern scientific research needs different approaches for proposing new concepts, hypotheses and theories (Coccia, 2018). In light of this, essential research activities as literature reviews (LRs) have to address these trends and need suitable tools to represent and summarise the literature effectively for (Parè and Kitsiou, 2017; Parè *et al.*, 2015):

- a) depicting research trends;
- b) disclosing what literature says on a specific topic;
- c) assessing research findings;
- d) supporting the development of new frameworks and theories, and
- e) shedding light on gaps and identifying future issues.

To this end, following a design research approach (Hevner *et al.*, 2004; Mettler, 2011), I developed an innovative tool in previous works, which can provide multidimensional literature representations. In the current paper, I promote it by presenting two application cases in information systems and entrepreneurship fields. This new way of representing literature is versatile and suitable, and it will support authors in their LRs and readers in understanding.

In the following section, I offer an overview of the different types of LRs. In the third section, I present the approach and the main features of the proposed tool. Then, to show its versatility, I carry out two different applications. Finally, I offer some views and reflections on the proposed tool.

Background: some typical features of literature reviews

Previously, I summarised the typical objectives of literature reviews. As a result, a researcher can develop different literature review types. About this, the main distinctive feature concerns the adopted rules. Indeed, a researcher can carry out a literature review without following rules (the typical case are the narrative reviews: usually based on personal experience and not including explanations on the review process), or she can follow a set of rigid rules (as in structured LRs). However, there is a continuum of LR typologies between these opposite approaches (Massaro *et al.*, 2016), which take different labels like systematic review, rapid review, scoping review, etc.

To provide an overview on this issue, I analysed the works of Parè *et al.* (2015), Paré and Kitsiou (2017), and Xiao and Watson (2019), which categorise the typology of LRs. In particular, to show the different types of literature reviews and their main features, I use the classification developed by Parè *et al.* (2015) (see Table 1).

Table 1 – The categorisation of LRs

Overarching goal	Theoretical review types	Scope of questions	Search strategy	Nature of primary sources	Explicit study selection	Quality appraisal	Methods for synthesizing/ analysing findings
Summarisation of prior knowledge	Narrative review	Broad	Usually selective	Conceptual and empirical	No	No	Narrative summary
	Descriptive review	Broad	Representative	Empirical	Yes	No	Content analysis/ frequency analysis
	Scoping review	Broad	Comprehensive	Conceptual and empirical	Yes	Not essential	Content or thematic analysis
Data aggregation or integration	Meta-analysis	Narrow	Comprehensive	Empirical (quantitative only)	Yes	Yes	Statistical methods (meta-analytic techniques)
	Qualitative systematic review	Narrow	Comprehensive	Empirical	Yes	Yes	Narrative synthesis
	Umbrella review	Narrow	Comprehensive	Systematic reviews	Yes	Yes	Narrative synthesis
Explanation building	Theoretical review	Broad	Comprehensive	Conceptual and empirical	Yes	No	Content analysis or interpretive methods
	Realist review	Narrow	Iterative and purposive	Conceptual and empirical	Yes	Yes	Mixed-methods approach
Critical assessment of extant literature	Critical review	Broad	Selective or representative	Conceptual and empirical	Yes or no	Not essential	Content analysis or critical interpretive methods

Source: Paré *et al.* (2015)

The literature contains a wealth of publications on the process of developing literature reviews (see, for instance, Webster and Watson, 2002; Rowley and Slack, 2004; Okoli and Schabram, 2010; Denney and Tewksbury, 2013; Watson and Webster, 2020; Park *et al.*, 2021). In particular, to depict this, I draw on the work of Levy and Ellis (2006), which confirms that the review process is sequential and

follows a three-stage approach to develop an effective LR: 1) inputs, 2) processing and, 3) outputs (Figure 1).

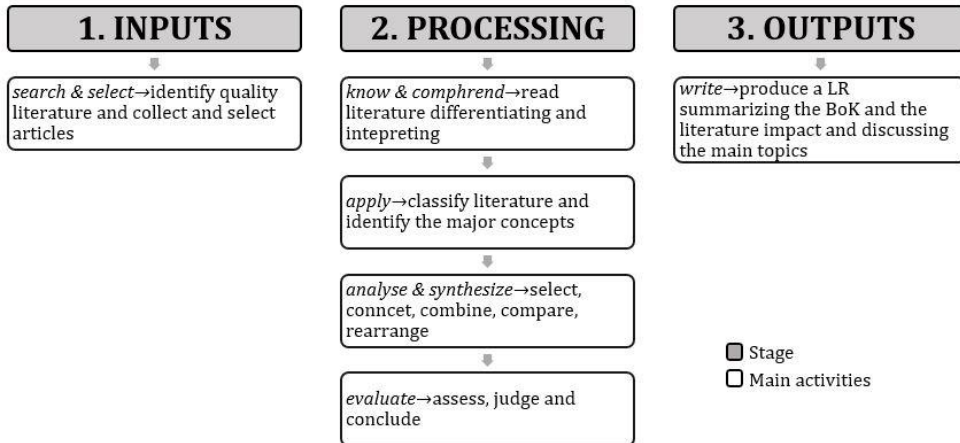


Figure 1 – Stages and main activities of a literature review (Levy & Ellis, 2006)

Although we have numerous LR types, they frequently draw on tables and figures to depict and summarise the body of knowledge analysed. In many cases, especially in LRs adopting frequency analyses, statistical methods or content or thematic analyses, articles include some summary representations, which often are two-dimensional (as in the case of frequency analyses). Here, I do not have the opportunity to provide much evidence to support these considerations, which essentially derive from experience. However, considering the domain of the following applications, I can offer a few examples and checks in support of these considerations.

In particular, I draw on previous work (Albanese, 2017), where the author developed an umbrella review¹ of 18 ERP literature reviews published from 2001 to 2016. Although ERP systems² have a multifaceted and multi-disciplinary nature (Klaus *et al.*, 2000), more than 80% of the analysed LRs draw on two-dimensional literature representations. In addition, extracting through the Scopus database the LRs on entrepreneurship published during 2021³, I found 17 articles in full text published in the social science and business, management and accounting area. In more than 41%

¹ This review type is an overview of reviews, which aims to analyse and compare a set of LRs (Becker and Oxman, 2008; Parè and Kitsiou, 2017).

² ERP systems are widely used information systems applications. Following Klaus *et al.* (2000, p. 141), they are “comprehensive, packaged software solutions seek to integrate the complete range of a business's processes and functions in order to present a holistic view of the business from a single information and IT architecture”.

³ In particular, at the beginning of August 2021, I searched articles published in the English language and characterised by the labels “literature review” and “entrepreneurship” in the keywords.

of these papers, there is wide use of two-dimensional literature representations. It means there are two or more frequency analyses in the descriptives analysis. In just over 29% of cases, there is sporadic use of two-dimensional literature representation (e.g. in the Appendix). Finally, the rest of the selected contributions do not use literature representations. It derives from the type of LR (narrative literature review) or the number of selected papers, which is not high.

From a certain point of view, these elements attest to the utility of tools providing comprehensive literature overviews, as snapshots developed on multiple variables, being useful for the analysis and the reader understanding.

Methodology

In previous works, such as the study of Somers and Nelson (2004), I found some elements helping me to imagine the proposed way of representing literature. On this basis, following a design science research approach (Hevner *et al.*, 2004; Vaishnavi *et al.*, 2004; Venable, 2010), I have gradually perfected what was in my mind, namely the building of multidimensional literature representations.

To this end, I pinpointed a series of steps. Initially, the reviewer must identify three variables to classify the selected literature (mapping variables) and the related taxonomies. Then, the reviewer must link these variables to the axis (X, Y and Z) of a tri-dimensional structure (Albanese, 2019).

After, the reviewer must choose the dimensions to assess the literature to analyse (evaluating variables). In this step, a reviewer can adopt several types of variables as the frequency (to study the density of documents), the total citation count (to assess the knowledge transfer impact) or other dimensions, as well as a composite score or indicator (Vinkler, 2010; Ioannidis *et al.*, 2016). The evaluating variables are necessary to judge the selected literature and therefore have to be chosen concerning the purpose of the literature review.

Essentially, through the system of mapping variables, the reviewer analyses and divides the selected literature into subgroups. Then, she assesses them based on the adopted evaluation variables (Figure 2).

To view the proposed approach in practice, I present two application cases concerning two ongoing works. The first is on the information systems field and faces the literature on ERP and small and medium enterprises (SMEs). The second concerns the entrepreneurship domain and regards the papers on community enterprises.

Given the goals of the work and the available space, I cannot address each application in detail, but I deal with some elements concerning the inputs and outputs stage (Figure 1). In particular, I provide some information on the characterising features of each application case by describing the following points:

- a) the identification of goals;

- b) the definition of the scope of LR;
- c) the description of choices made in terms of mapping and evaluation variables, and,
- d) the summary of the selected literature in a multidimensional representation.

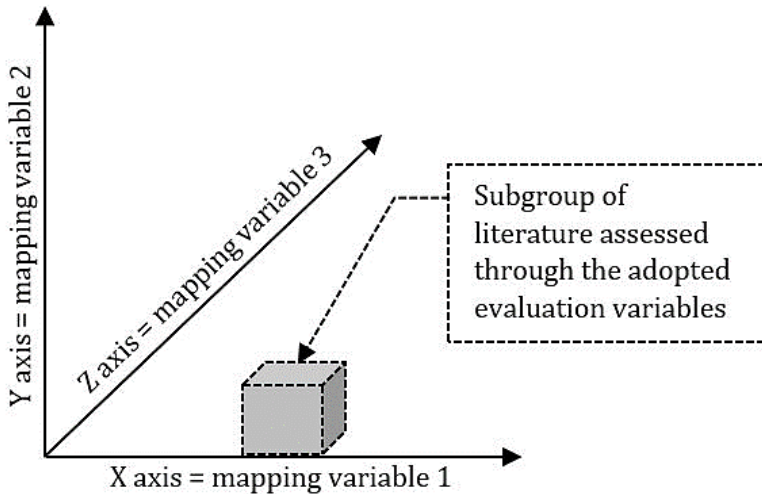


Figure 2 – The

system of mapping variables

Application cases

I introduce the following application cases by providing some information about their motivation. I present case 1 to show the capacity of the proposed tool to summarise a specific body of knowledge. In this perspective, I set up the first case like a replication study, as I use the proposed tool considering a published LR. In this way, the reader can compare the current and original literature representations to understand the benefits in terms of efficiency. Then, I develop the second case to show the informative capacity of the proposed tool. Through this application case, where I carry out a literature representation based on five variables, the reader can catch the benefit of this type of representation by comparing it with typical two-dimensional literature representations.

Case 1: a literature review on ERP and SMEs

I applied the proposed tool to the work of Haddara and Zach (2012). The objective of this LR was to present a comprehensive review of published studies on ERP in SMEs to illustrate the status of the research.

The body of knowledge analysed by the authors includes 77 documents published between the years 1999-2009. Unfortunately, I only analysed 73, as the replication

study did not consider some works because three conference papers were unavailable, and one article resulted outside the selected timespan.

To classify the literature, the original authors adopted the publication/conference outlet, the publication year, the research strategy and, the ERP lifecycle. In the current analysis, I selected the last three variables in the quality of mapping variables. In particular, I linked:

- a) the research strategy to the X-axis;
- b) the ERP lifecycle¹ to the Y-axis;
- c) the publication year to the Z-axis.

Then, considering the goal of the LR, I limited the choice of evaluation variables to one dimension, namely the frequency. In this way, the reader can compare Figure 3 with the figures of the original analysis.

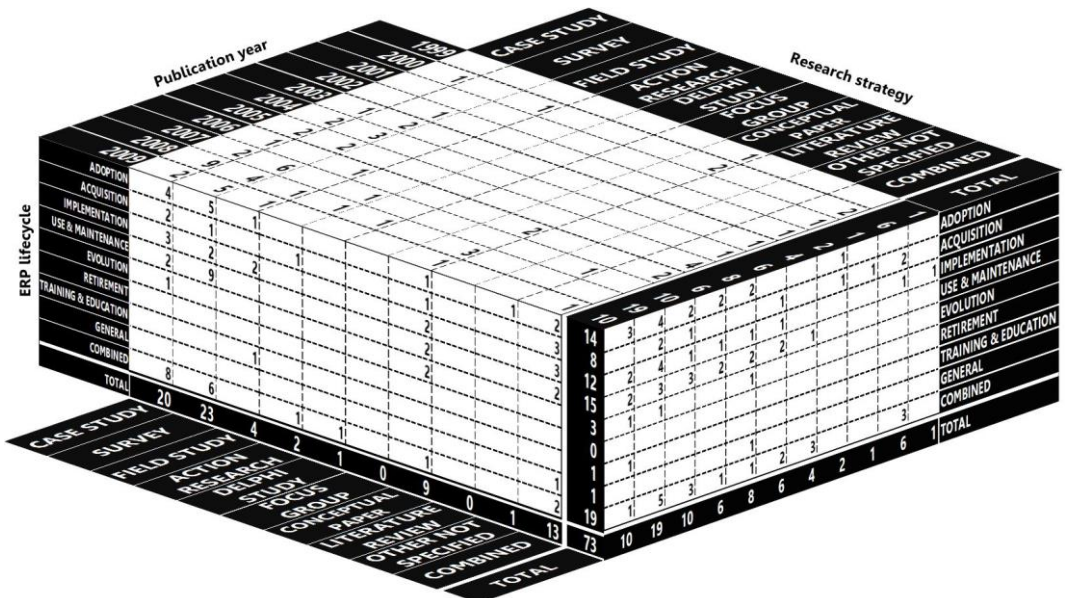


Figure 3 – ERPs in SMEs literature representation

¹ This is a typical classification variable adopted in the analysis of the literature on ERP systems (Esteves and Pastor, 2001; Esteves and Bohorquez, 2007). Following Esteves and Pastor (2001) and Dery et al. (2006), to avoid the double-counting, this analysis included the following classes in the ERP lifecycle taxonomy: ‘training and education’, ‘general’ (not related to an ERP lifecycle phase), and ‘combined’ (concerning more phases). Indeed, in Haddara and Zach’s work, the studies dealing with two or more lifecycle phases are computed in each class.

Case 2: a literature review on community enterprises

The second application case concerns the community enterprises. These organisations work for the sustainable revitalisation of their community by carrying out a mix of economic, environmental, cultural, and social activities. They usually arise in a depleted context and involve local people in the regeneration process and management of the community enterprise. In light of this, they are independent, not-for-private-profit and locally accountable (Development Trust Association, 2000; Buratti *et al.*, 2020 and 2021).

Although these elements may seem sufficient for a definition, the community enterprise may appear a blurring concept if one analyses the literature. Considering this and the existing questions on their impact on local development and the entrepreneurial process, together with some colleagues, we developed a literature review on studies published from 1990 to 2020.

To provide an initial overview summarising this multifaceted body of knowledge, corresponding to 111 documents, I carry out the following choices about the mapping variables. Concretely, I put:

- a) the year of publication in the X-axis. Since there is a widespread timespan, to simplify the building of the multidimensional representation, I adopted classes covering three years,
- b) the publication outlet in the Y-axis. In this case, since a high number of journals published the selected literature, I grouped the publication outlets in classes based on the journal h-index (Mingers *et al.*, 2012). I know any metric may be biased, but I chose this index because it is intuitive and routinely calculated (Mingers and Young, 2017). In particular, I referred to Scimago Journal Rank, as it has a broad journal coverage (Walters, 2016) and,
- c) the research strategy in the Z-axis. The starting point for the adopted taxonomy is the work of McGrath (1981), enriched by the classes “combined methods” and “not specified”, to face every case.

In terms of evaluation variables, I use the number of documents to depict the distribution of the produced knowledge. In particular, I insert this measure by attributing a colour to each literature subgroup. In addition, I use the average of citations to assess the knowledge transfer impact of each literature subgroup (King, 1987). In this case, I process the Google Scholar data downloaded through Publish or Perish software.

As a result, the proposed tool offers the following informative overview of the selected literature (see Figure 4).

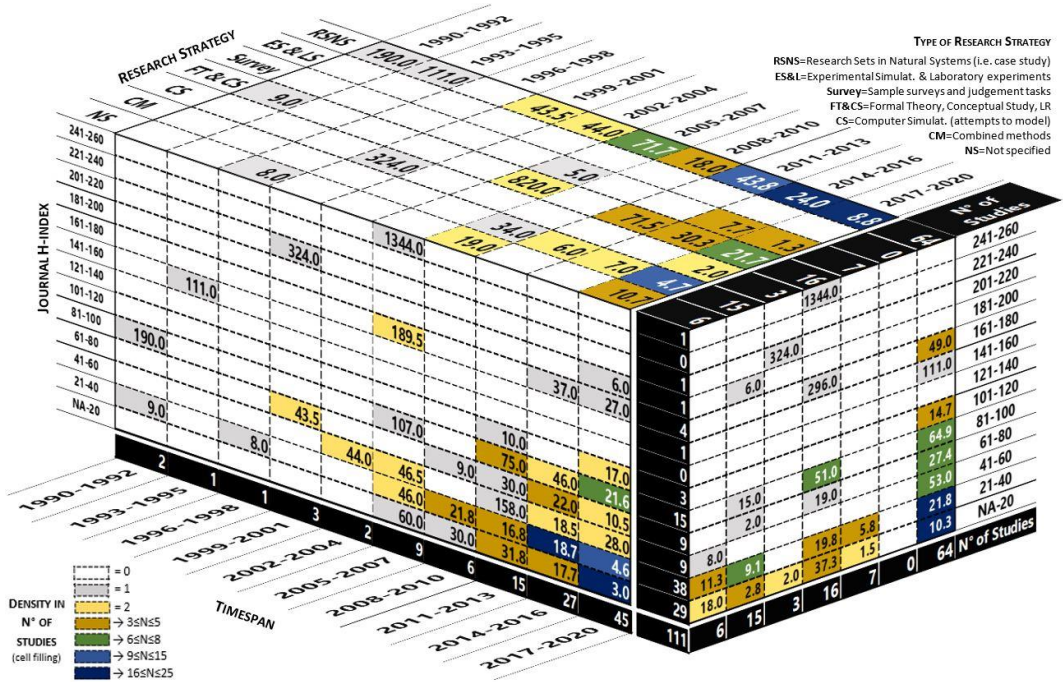


Figure 4 – Community enterprises literature representation

Discussion

Discussing the results of the LRs shown in the application cases is outside the goal of this work, while it seems interesting to underline some benefits of the proposed tool.

In general, I underline the efficiency and effectiveness of this way of representing literature. Indeed, by referring to the first case, I note benefits in terms of efficiency, as Figure 3 manages to portray the selected literature through one snapshot, while the original work uses more than one figure. As a result, readers can focus on one or a few elaborations while analysing a review article, avoiding frequent switching between pages.

About the effectiveness, I remark more than one advantage. Indeed, this way of representing the literature allows readers both to have an idea of the analysed documents at a glance and assess specific literature subgroups (conditioned view). For instance, the reader can observe the trend of a given research strategy. In addition, the proposed tool shows a good level of flexibility and versatility. Indeed, it allows the reviewer to address many research questions, as it offers the opportunity to adopt different qualitative and quantitative variables, combining them in endless ways. As a result, the tool is adaptable and applicable in several domains, as shown by the application cases.

Some limits may arise in terms of usability. It is not immediate to produce this type of representation. I do not find an application to develop these multidimensional representations through a preset process like an Excel bubble or radar chart. In the first attempts, I tried to construct the figure manually, but this proved to be time consuming and inconvenient for the updates. Then, analysing grey literature and thinking about what Excel can do, I found a not too complex way to produce Figures 3 and 4.

Finally, looking at the application cases individually, I note that developing the multidimensional representation as in the first case is suitable for depicting research trends and shedding light on potential gaps. Therefore, considering LR types in Table 1, I think the arrangement of Figure 3 is mainly convenient for developing descriptive and scoping reviews and supporting meta-analyses. While building a multidimensional representation like in the second case can also be handy for assessing research findings and identifying future issues. In light of this, I believe that the extensive use of evaluation variables can also support the development of critical reviews.

Conclusions

In this work, I underline some recent features of academic research and the need to have proper tools for the literature review activity. In light of this, the work focuses on issues concerning utility, as it proposes a tool that aims at satisfying needs in a more effective/efficient way. To this end, I present an innovative way to create multidimensional literature representations showing the application in practice.

Advancing in the level of application complexity, I present two cases. In the first case, I adopt a replication perspective and re-propose the analysis carried out in a previously published LR. In this case, the use of the proposed tool is not complete because only one evaluation variable is adopted. In the second case, I present the results of a work in progress where the information capacity of the tool arises to a greater extent.

Finally, I discuss these applications underlining the main benefits, recommending some contexts of use and indicating some limits.

About recommendations for future research, the versatility of the tool does not imply suggestions concerning specific application domains. Probably, the presented tool could result suitable in LRs regarding multi-disciplinary topics, as topics linked to sustainability, climate change, education, etc., and in those aimed at summarising research trends of large pieces of literature, assessing research findings and identifying literature breaches. However, the number of applications should increase, perhaps involving bibliometric experts, to improve the proposed tool and test its informative capacity.

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Emergence of Non-Traditional Financial Service Providers in the Market - A Threat or An Opportunity for the Georgian Banking Industry

Tea Kasradze

Professor at Caucasus International University

Abstract

Each banking institution has a customer-oriented strategic plan, although the sudden emergence of competition does not allow them to relax. The explosion of new technologies and the rise in consumer demand have been putting pressure on banks since the 2008 recession. Retail banking customers are constantly expecting new, improved, affordable, convenient continuous service from the bank. In an environment of increasingly competitive, innovative financial services, banks need to be able to maintain not only customers but also brand awareness. The emergence of non-traditional financial service providers in the market such as FinTech, NEO Banks, Challenger Banks, BigTech, which reduces the relationship between banks and their customers, completely changes the banking industry. Today we face a new open ecosystem of consumers, traditional banks, FinTech and BigTech companies, regulators, developers, non-banking firms and other players, with customers at the center. Banks will have to significantly change their commercial and operating models to retain customers and remain active players in the market. The presented paper examines the development trends of new players in the financial industry - non-traditional financial service providers and the readiness of the banking industry to respond to these trends. The paper is a study of the impact of digitalization of financial services on the banking sector based on the study and analysis of reports of the various international organizations, local policy documents, reports and regulations of the National Bank, the papers of various researchers and their secondary data. Based on the research, suggestions have been made on how Georgian banks should strategically approach non-traditional providers of financial services to avoid losses, withstand competition and remain active market players.

Keywords: BigTech, FinTech, bank industry, financial services, consumers, digitalization, open banking

Introduction

The internal (micro) and external (macro) environment of banking institutions, which determines the competitiveness of the banking sector, has changed significantly since the 2008 crisis. Among the major recent micro-changes that have undoubtedly changed the bank operations and vision are: a) the emergence of a new generation of banking customers and increased customer expectations and b) increased competition from new players in the financial industry - non-traditional financial service providers - FinTech, NEO Banks, Challenger Banks, BigTech (SWACHA-LECH, 2017). They are focused on the new generation of consumers and their expectations. These changes are forcing the banking sector to significantly change its commercial and operating models in order to retain customers and remain active players on the market. The trend accelerated even more in the wake of the Covid-19 pandemic.

The emergence of a new generation¹ of customers (Generations Y and Z) and rising new customer expectations are pushing large banks to completely change their approaches. New generations are constantly demanding the services offered to be refined, and they expect more from financial institutions than their previous generation.

Generation Y- the so-called Millennial Generation – was born in 1981 - 2000. This generation cannot imagine their own home without technology. Millennials believe that they are changing the world. They will probably succeed. They have already overtaken Generation X in the labor market.

Soon Generation Z born in 2000-2020 (the so-called iGen) will catch up with this generation. As of today, Generation Z members are under the age of 20, so at this point, it is difficult to analyze their financial habits and behavior. However, it is important for banks to start monitoring the behavior of Generation Z, of the youngest customers whose demand for banking services will undoubtedly increase gradually in the coming years.

It seems that identifying the needs of Generation Y, (the so-called Millennials) and Generation Z (the so-called iGen) based on their age, number, and technological interests is very important for today's banking business. This generation is now young and becoming new users of financial institutions. These are the young generations who are constantly striving for innovation. This is a generation that is important both in size and in their great demand for banking services. The younger generation, unlike

¹ Generation - A group of people born 20 years apart who have three similar criteria:

- They are intersected in one historical epoch. They have to experience the same historical event or social change in a similar age category;
- They have similar attitudes and patterns of behavior.
- Based on similar experiences, they are combined with a sense of belonging to a generation (Strauss & Howe, 1997)

the older generation, grew up in a different society, culture, religious beliefs and formed their own, different behaviors and attitudes from the older ones towards various issues, including finances.

Six out of five millennials surveyed say they prefer to communicate through social media; According to the survey, millennials make up the largest percentage of mobile banking customers - 47%. Given this trend, banks need to pay close attention to the expectations of generations. They should expect that future generations, starting with Gen Z, will invest even more in technology and increase their demand for relationships with the bank through various technology channels. For comparison, Baby Boomers and senior members of Gen X, as a rule, value human relationships and prefer to physically go to bank branches and settle their affairs on the spot (Wingard, 2018). This is a challenge for banks, as they must be able to meet the expectations of both older and younger generations of bank customers at the same time so as not to hurt the expectations of investors. Interested parties should be aware that they will receive a return on their investment or equity. To do this, banks must make a profit. This in turn is related to customer expectations. Satisfied customers are the key to business success - the more satisfied customers are, the more satisfied investors will be.

It is difficult for traditional banks to cope with this challenge. Non-traditional providers of financial services are the ones who fill the gap that exists between the expectations of the customers and the services offered by the traditional banks. The reason why customers buy services from non-traditional providers of financial services is the speed of services, cheapness and customized service. The absence of intermediaries is the biggest tool of FinTechs (PwC, 2016).

Research Methodology

The presented paper examines the development trends of new players in the financial industry - non-traditional financial service providers such as FinTech, NEO Banks, Challenger Banks, BigTech. Etc and the readiness of the banking industry to respond to these trends. The paper is a desk study of the impact of digitalization of financial services on the banking sector based on the study and analysis of reports of the various international organizations, local policy documents, reports and regulations of the National Bank, the papers of various researchers and their secondary data. Based on the research, suggestions have been made on how Georgian banks should strategically approach non-traditional providers of financial services to avoid losses, withstand competition and remain active market players.

Literature Review

The landscape of most industries has changed dramatically in recent years, affecting both existing and start-up companies. In such an environment, traditional approaches to management are outdated and need to be re-evaluated in order for companies to

remain competitive. Financial industry experts point out that financial institutions operating today are experiencing increasing global pressure not only from fintech and digitalization, but also from new disruptive entities such as social media platforms, e-retailers, robotics, tech companies, startups, artificial intelligence and large ICT. Changes in consumer behavior and industry regulation are also to be considered, and transformational changes are needed instead of improving existing processes. More than 80% of banking leaders believe that their business is in jeopardy and that revolutionary newcomers are changing institutional logic in a way that threatens existing actors. While managers of operating companies generally acknowledge the threat, many businesses are finding ways to manage it. Some operating financial institutions are not even in a hurry to take drastic, radical measures because they believe that they are operating in a sufficiently highly regulated market. However, this market is now approaching the level where competition intensifies and not everyone can survive (Strandvik, Holmlund, & Lähteenmäk, 2018).

The emergence of new generations and their dependence on technology has greatly contributed to the emergence and rapid growth of Fintech and Bigtech companies on the market. Today, the number of FinTechs on the market and the number of customers of their innovative financial services tailored to their customers is growing. Increasing competition from FinTechs is one of the major challenges facing the banking industry today. There is no doubt that at the present stage Fintech companies have a great impact on the competitiveness of the banking sector. FinTech companies are typically start-up firms that focus on using software to deliver financial services. Fintechs are growing at lightning speed on world markets due to low cost, speed and other positive factors. The market capitalization of 10 leading American Fintechs increased by 50% in 2018. Goldman Sachs predicted that the annual revenue of these startups would exceed \$4.7 trillion, which will be mainly at the expense of traditional financial service companies. These new members of the industry are forcing many financial institutions to look for partners and/or merger opportunities to avoid the financial problems caused by Fintech competition (Tea Kasradze, 2017). In order to stay competitive, traditional banks and credit unions need to learn from FinTechs who have achieved success/customer confidence by providing them with streamlined services. (Wingard, 2018).

During the Covid-19 pandemic, the number of users of Fintech services increased even more. E.g. Within 6 months of the pandemic in the USA, the number of users of Fintech services increased by 6% to 42% (before the pandemic 36% of financial decision-makers said they used Fintech accounts). If we look at it in terms of generations, the number of Fintech users increased by 14% in Generation Z, by 8% in the Millennials, by 7% in Generation X and by 2% in Baby Boomers (Krivkovich, White, Townsend, & Euart, 2020).

Fintech companies provide financial services through computer software and technologies so that customers can plan, manage and control their own finances more easily and quickly. This ensures informing the customer timely, which in turn reduces costs and improves existing business models and services. Online mode offers customers a wide variety of financial product choices and gives them more independence. Also, with the help of technology, financial organizations have more detailed databases about their customers. Accordingly, they offer the client the most favorable and acceptable product/service (Alfaidze, 2019).

Fintech's operations include financial management, payments, international transactions, cryptocurrency, blockchain, loans and deposits, Peer-to-Peer (P2P) loans, investments, financial markets, trading and risk management.

Fintechs are an alternative to banks in terms of financial services. They try to offer customers much-simplified savings or lending services. For example, the depositor app automatically saves money after each payment. The simplicity of the process and the result fascinate the customer. Fintechs also issue loans much more easily than banks. A P2P loan platform connects the borrower and the lender without a financial intermediary. A P2P platform can provide services such as search, screening, evaluation, payment processing and execution or escrow deposit with a third party until certain conditions are met. The loan is issued through P2P at the interest rate indicated on the website at any time, continuously. It is a flexible and easy alternative to finding resources, making it popular with both startups and students.

When a third party is not involved in the transaction, there is a greater risk that the service provider will not provide the service at all or its quality will not be what the customer expects, or the buyer will be insolvent, or one or both parties will benefit from asymmetric information. This additional risk represents the additional transaction costs for the P2P transaction. The buyer, seller, or both may pay the price of the service or may offer the service for free and generate income in another way (Meparishvili, 2019).

P2P lending platform works on the principle of quick identification and elimination of risks from both parties. The platform determines the interest rate based on the risk assessment of the individuals wishing to borrow. When using the P2P platform, the lender is guaranteed no losses if the borrower is late in paying. The lender is also insured against currency risks as the investment is made only in hard currency.

The emergence of serious competitors in the form of Fintechs and the technological innovations introduced by them in financial services are forcing the banking sector to change the traditional accumulation and lending practices. Today, banks have started to actively provide financial services through mobile, Internet and various software applications. Bank customers can use their mobile phones to control their financial funds, promotions, stocks, make daily transfers, manage insurance and conduct other financial transactions.

Another serious competitor to the banking sector on the market is Bigtech companies (the term Bigtech combines Big and Technology to highlight the names of the world's largest technology companies). BigTech firms - large companies of established technology platforms - are playing an increasingly important role in the financial system and have begun to provide financial services (FSB, 2019). Over the past decade, some BigTech companies have grown rapidly and today are larger in terms of both the number of customers and the amount of capital than the world's largest financial institutions.

The difference between Bigtechs and Fintechs is mainly related to equity. Bigtechs are owners of large capital, own more advanced technologies, and are more widely represented around the world. Fintechs are firms created specifically to provide financial services, financial services for Bigtechs are a small part of their broader business. Bigtechs have a major business in information technology and consulting, from which they receive 46% of income, and income from financial services accounts for about 11% of total income (BIS, 2019).

Bigtechs have access to a large amount of user data which allows them to "swim in" the financial market. BigTech firms benefit from building existing large customer databases and collecting or analyzing their customer data (FSB, 2019). They can use this to quickly reach a scale in a variety of business areas, including financial services. They also have significant financial resources and often have access to capital and financing at a lower cost than some large financial groups (FSB, 2019).

It should be noted that by the end of 2019, the market capitalization of the 200 largest banks was only slightly higher than the market capitalization of the seven largest BigTech companies (Amazon, Facebook, Microsoft, Google, Tencent, Alibaba, Apple) and the capitalization of both groups was about \$6 trillion. Such a large difference is not surprising, as the price-to-book ratios of Bigtechs were more than 5.0 throughout 2019, while the price-to-book ratios of banks varied in the range of 0.8 to 1.2 over the last ten years. In 2020 this gap widened further. By the end of July, the market capitalization of only the seven largest BigTechs exceeded \$8 trillion, which was almost twice the market capitalization of the top 200 banks (Mckinsey&Company, 2020). Investors also seem to prefer technology over banks.

When discussing competition or cooperation between the banking sector and non-traditional providers of innovative financial services, we can not ignore the open banking system.

Over the past decades, there have been many startups in the banking and financial sectors that are often better able to introduce digital financial innovations than banks. However, often such startups are either not ready or do not want to become a bank. In order to promote this competition, an initiative was launched in Europe to oblige banks to make information about the client's bank accounts, payment implementation, etc. available to these companies. The bank is obliged, at the request

of the customer, to give a third party access to his/her information - this may be another application, startup, etc. Open Banking allows customers to use a range of services whereas these services are not offered by their preferred bank. Open Banking, on the one hand, increases competition on the market between traditional and non-traditional financial institutions, on the other hand, it has become a major catalyst for innovation in the banking sector as it paves the way for easier access of global platforms to the sector. Open Banking in Europe is regulated by PSD2 (Payment Services Directive 2). Since 2019 there are 474 registered institutions in Europe that are involved in open banking (BOG Fintech, 2021).

Discussion and Findings

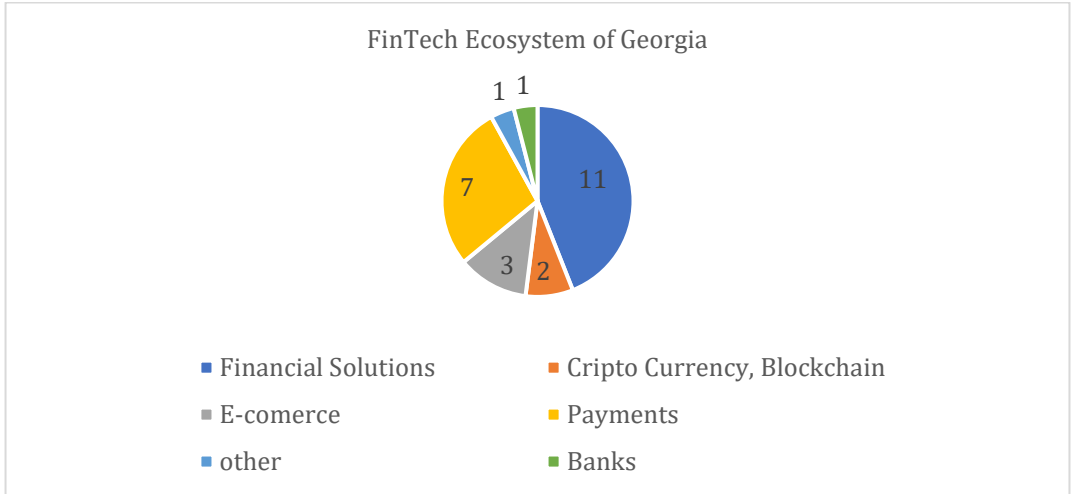
Experts believe that in recent years, Georgia has made great strides in terms of technology, and today we can say that Georgia is one of the most attractive places for Fintech opportunities in the post-Soviet space. Georgia is an attractive place for the world's largest Fintech companies to invest, as they see that many large companies are already operating successfully in the country. There is a great variety of Fintech companies in Georgia. Innovative financial services are successfully offered to customers here by both newly established startups and large companies providing traditional financial services. The banking sector in Georgia quickly realized the need and importance of financial innovation for consumers and it began to provide online banking programs to customers in cooperation with Fintechs, through which customers can easily perform various operations in a short time.

Today there are payment provider companies, as well as lender and cryptocurrency trading platforms in Georgia. Since 2018, the first Georgian neobank, fully digital bank Space Bank has also operated, only as a mobile application, without any traditional physical branches. Through this app, customers can get a full range of retail banking services such as loans, payment cards and saving products. The customer-oriented daily banking system has completely changed the access of the Georgian population to financial services and boost financial inclusion (Kasradze, 2020).

The number of online transactions with payment cards is gradually increasing. E-commerce is also quite popular in the country. In Georgia, consumers often use e-commerce websites such as eBay, Amazon and AliExpress to purchase items through e-wallets and credit card payments. Consumers today can also avail P2P loans.

Unfortunately, no Fintech market research has been conducted in Georgia at present. Official statistical information, the analysis of which would confirm the success of Georgia in the revolutionary development of innovative financial technologies given in the above information, is scarce. The probable reason for this is that it is difficult to define the boundaries of Fintech services, which makes it difficult to quantify the market size of Fintech services. An additional problem is the difficulty of separating/differentiating Fintech services from other services by traditional financial sector companies.

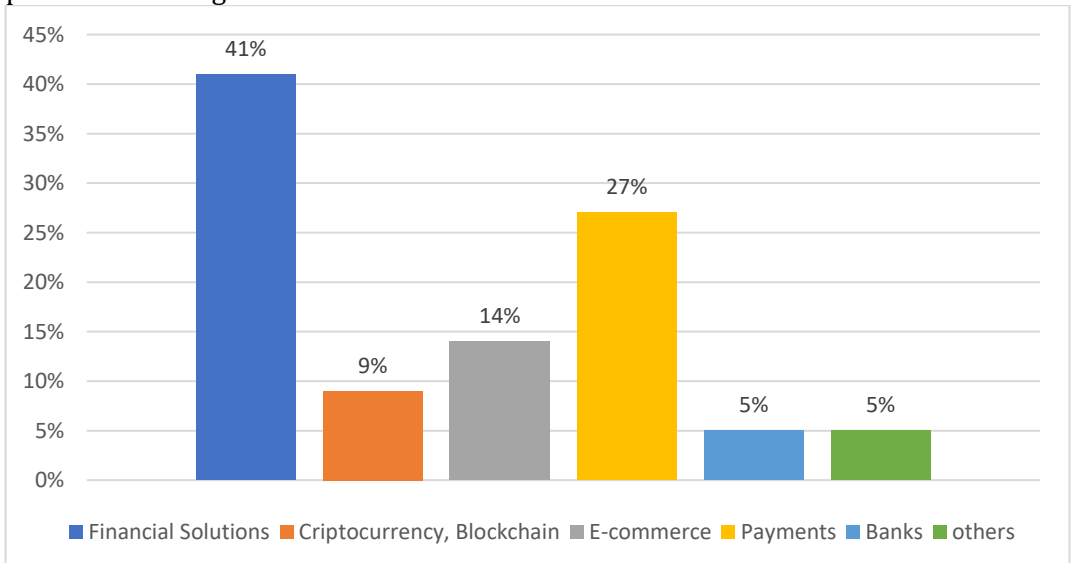
According to the Georgian FinTech Association, the Georgian FinTech Ecosystem currently has 25 FinTech companies, which is not much. See Fintech Ecosystem on Diagram 1:



Source of Informatin: FitTech Assosiation of Georgia

<https://nbg.gov.ge/en/media/news/panel-discussion-on-open-banking>

And the percentage distribution of Fintech companies in Fintech ecosystem are presented in Diagram 2:



Source of Informatin: FitTech Assosiation of Georgia

<https://nbg.gov.ge/en/media/news/panel-discussion-on-open-banking>

By 2015, the volume of online alternative finances in Georgia amounted to 103 million euros. In 2016, the volume of alternative credits in Georgia was 113 million USD, in 2017 it increased to 196 million USD, while in 2018 it decreased to 193 million USD. Alternative credits include the sum of Fintech credits and Bigtech credits, however, the volume of Bigtech credits in Georgia is equal to 0 and this indicator is the total volume of Fintech credits. (Giulio Cornelli, Jon Frost, Leonardo Gambacorta, Raghavendra Rau, Robert Wardrop and Tania Ziegler, 2020).

According to the National Bank, today 93 active payment service providers are registered in the market. However, the delivery of innovative financial services is not limited to a new, independent company, and is often done under the umbrella of existing organizations. Since banks and microfinance organizations are also aware of the importance of technological innovations in their business they are making significant investments in the development of financial technologies (Kasradze, Tea; Zarnadze, Nino, 2019).

The main challenges of the innovative financial service industry in Georgia are:

A) The main obstacle to the development of a competitive market in Georgia is the lack of clear regulatory standards. Regulations are somewhat hindering the activities of Fintechs. The permission/license from the National Bank is required for the activity. In case of a payment system provider, the requirements for obtaining a license are relatively light, while Fintechs wishing to lend and obtain a deposit will be required to obtain a digital banking license from 2020.

The introduction of an open banking system, on the one hand, will encourage the expansion of Fintech activities, on the other hand, will significantly change the traditional banking business models and keep the hegemony of the classical banking system in the past (Abuladze, 2018).

Pursuant to the Association Agreement between Georgia and the European Union, the National Bank of Georgia started the introduction of open banking in Georgia in March 2021 within the framework of the implementation of the Second Payment Services Directive (PSD2 - Payment Services Directive 2) It will be fully operational by the end of 2021 and will be available to non-banking institutions as well as individuals, which, on the one hand, will increase competition between Fintechs and banks, and, on the other hand, will give them better cooperation opportunities (National Bank of Georgia, 2020).

B) Restrictions on access to data. Open Banking allows Fintechs to easily access client data and embed banking services in their digital products. As a result, the consumer will get the most customized and safe product for them. At this point, this service is only available to banks. For Fintech companies, the business environment is not so favorable in this respect. Up to now, the banking sector only exchanges credit information with one another through credit bureaus.

C) Lack of trust in customers is another challenge for non-traditional financial service providers. Although the interest in technological innovations is high, a large part of consumers still prefers the services of large financial institutions, which is due to the relationship and trust established over the years. Newly established Fintech organizations need to gain the trust and goodwill of customers with high quality, fast, cheap and transparent service (Zarnadze & Kasradze, 2020).

D) Qualified staff is also a problematic issue for non-traditional companies providing innovative financial services. To work in the field of Fintech, a person needs some knowledge in both finance and technology (Tea Kasrade, 2021). Due to the high level of education, this problem is less common in Europe and America, but in the developing world, adequate human resources are another challenge for non-traditional financial service providers. Access to an educated and cheap workforce in Georgia is a kind of advantage of Georgian Fintech companies (Tea Kasradze, 2018).

E) And finally, access to capital is a serious challenge not only for Georgian companies but for the whole world (the only exception in this regard is China) (Kasradze, Tea, 2018).

Conclusions and recommendations

Thus, after the crisis of 2008, there is an explosion of new technologies in the financial sector and an increase in consumer demand, which put pressure on traditional banks. Retail banking customers are constantly expecting new, improved, affordable, convenient continuous service from the bank.

Given the need and popularity of technologies, trends and their current/future impact on the financial sector should be considered. Banks, if they want to stay in the market and be competitive, must perceive financial technologies as the next stage of evolution and be actively involved in simplifying and improving financial services.

The traditional banking system will be able to overcome the growing competition from Bigtects and Fintechs only through innovative technologies, offering continuous digital banking tailored to the customer; by increasing cyber security measures to prevent theft of all kinds of information or technological fraud; with digital signatures that replace the paper and ensure the authenticity of the user's signature that the signed documents are 100% legal and valid without the need to go to the office; by collecting and processing data to better understand customer requirements and needs, and offer customized products; by gaining reputation and trust through offering any financial product to customers easily, quickly and cheaply; by educated, qualified staff.

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For An Ecological Awareness of Responsible Living

Vereno Brugiattelli

PhD

Abstract

The entrenched and firm conviction that man is master of nature while being separate from it has fostered the culture of the indiscriminate use of natural resources, the destruction of eco-systems and a waste society. Over recent decades, behind the urgent need to halt the ecological drift, the natural landscape has been of considerable interest in various disciplinary contexts including biology, from which it has gained renewed consideration from the “ecology of landscape” perspective, and ethics. Once the theoretical aspects of the ecology of the landscape concept have been clarified, I will demonstrate that the human condition is part of the natural environment. On this basis I will highlight the necessity for man to develop an ecological awareness founded on responsibility regarding biodiversity. The ethics of responsibility, enlightened by an ecological awareness, have to inspire living and guide environmental policy-making.

Keywords: natural landscape, biodiversity, ecological awareness, living

Introduction

In the context of the ecology of the landscape, ecologists play a pivotal role in dealing with the problems related to the natural environment. Since the end of the 20th century, new concepts of natural landscape and ecology of the landscape have been elaborated with the intention of gaining greater knowledge of the biological system. In spheres in which the landscape cannot be considered only from an aesthetic or geographic viewpoint, the role of the ecologist is considered indispensable in practical contexts such as: the elimination or reduction of harmful emissions, land and environmental planning, ecological network design, urban parks realization, and redevelopment of industrial areas etc. The landscape is an ecological system with its own typical features, but it also shares characteristics with other biological levels which are integrated through intricate recursive processes. In this respect the natural landscape system can be considered as self-regulating. It is a complex living system which includes man.

Through biological and cultural interactions with the landscape, man both modifies and is, in turn, modified by the natural landscape. Man is part of the environment and the landscape. From this perspective, living is deeply rooted in this “co-belonging” situation. An integrated-biological consideration of the landscape is acquired with a mature ecological awareness fostered by a sense of responsibility, directed at the realization of an ethical life “with and for the landscape”. Being “with” the landscape is an expression of man’s integration with the landscape on a biological and ecological level, while being “for” the landscape regards man’s commitment towards it from an ethical point of view. Such commitment relates the responsibility and awareness that the same biosphere is shared by all living creatures (Morin, 1999).

Gilles Clément, biologist and landscape architect, calls the space of biodiversity “Third Landscape”. From an ethical perspective “The reality of the Third Landscape is of mental order (....) It is positioned in the ethical field of the permanent planetary citizen” (Clément, 2004, pp. 27-28). Biodiversity conditions not only our biological life, but also our ethical and cultural living by influencing our psychological, physical, and social well-being. Thus, as stated by Edgar Morin (2015), there is great need for *ecological awareness*, intended as the awareness of living with all mortal beings in the same living space (the biosphere).

Biodiversity and ecological awareness

It is not only man that “makes” the landscape, but also all the other systems. Without doubt, the human species is the system that contributes most to shaping it through our technological and cultural apparatus, but all living creatures play a part in its transformations: biodiversity has always produced variety and richness of the landscape. Global environmental destruction can be dealt with only by being careful not to destroy the diversity of living creatures. Unfortunately, every year thousands of species disappear due to man’s impact. In order to conserve the natural landscape specific government intervention often produces contradictory results.

According to Clément, rather than artificial intervention, nature needs to be left to take its natural course in its own time. He states that the territory and the environment already constitute the landscape even without man’s intervention, even on a cultural level. It is the abundance of life, towards which man must direct his sense of responsibility and attention, that provides the conditions for human living. Human existence, health and well-being depend on this. The city-countryside and city-land relationships can therefore be considered in the light of such landscape. The so-called natural landscapes are the consequence of the diversity of life. Diversity “refers to the number of living species including animals, plants and simple organisms (bacteria, virus etc.) with the human element constituting a single species whose diversity is apparent through ethnic and cultural variations” (Clément, 2004, p. 10).

The third landscape is the territory of living diversity, representing a refuge. Vast areas of land, which appear unexploited by man have, in fact, been modified. These

include rivers that have undergone deviations or narrowing, a large artificial lake, managed woods and forests, hilly green spaces dedicated to livestock etc. Man's presence involves the reduction in the diversity of living things. On the one hand, it contributes to the creation of cultural landscapes, while, on the other, it often impoverishes the landscapes formed by biodiversity over long periods of time. Agriculture and livestock farming are activities which reduce diversity and erode the Third landscape. "The Third landscape, land of diversity, is directly linked to demographics, a taboo subject." (Clément, 2004, p. 26).

The diversity of life, given by the number of species and variety of behaviours, is connected to the existence of the Third landscape. The number of species and variety of behaviours depend on environmental changes. Human activity leads to rapid and significant modifications of the environment which greatly impact the number of species and behaviours. By compromising the Third landscape, since man is drastically limiting the "possibility of biological invention", diversity and the range of behaviours is reduced thus jeopardising man's life on earth.

Ecological awareness, responsibility and global landscape

Clément appears to be pessimistic about the role of the institutions regarding the landscape even when it is elevated to the ranks of national or world heritage. In this case the Third landscape is put under surveillance, accepted as a model and organised in such a way as not to undergo changes over time. But Clément observes that with such measures the Third landscape is destined to die (Clément, 2004, pp. 55-56). Paradoxically, it is the disinterest on the part of the institutions to ensure the "conservation and retention of diversity" (Clément, 2004, p. 56).

The institutions become disinterested in the Third landscape because its exploitation is impossible and unprofitable since the space is inconvenient, impractical, discarded, on the margins, uncertain, unwanted and without hope. Market dynamics consider only the profit and accumulation of material wealth to be gained from the landscape; the unexploitable parts of the Third landscape are saved as they are considered useless. It is precisely what is economically unprofitable that is considered useful for the living world. Knowing how to live the landscape signifies seizing the useful from the useless. Conserving biodiversity is possible if, finally, it is considered as usefulness. From uselessness may spring total usefulness for man. Therefore, value needs to be bestowed upon a certain form of unproductivity and land management policies need to be viewed with concern.

Responsibility towards the Third landscape is possible by cultivating the a-logic of uselessness, considering it as a material advantage and not as a tourist attraction. In short, it should not be seen as an economic resource but, rather as a source of life. So, responsibility is key and must be accepted regarding the fragility of the life-cycle systems. This means being responsible for the actions which may trigger long-term consequences in the equilibrium of living systems upon which we depend. In an era

of “technological advancement”, in *Das Prinzip Verantwortung* (1979), Hans Jonas highlights the inadequacy of traditional ethics regarding the problems raised by the “modified nature of man’s actions”. In ancient times, man’s actions produced consequences in the limited sphere of human interaction without affecting nature from which man, at times, needed to defend himself. (Jonas, 1979, pp. 23-26). For such human activity, actions of “simultaneity and proximity” were sufficient, while for *homo faber* the situation changed completely. Technology enables our actions to have effects both over long distances and well into the future. For this reason, an “ethics of the future” is needed in the name of responsibility for future generations. A suitable imperative for the new type of human activity, aimed at the new type of actor would be: “Act so that the consequences of your actions are compatible with the continuity of authentic human existence on earth” (Jonas 1979, p. 36).

Jonas’ imperative defends the biosphere by recognising the value and dignity of nature and regards mankind by recognising man as an “end in itself” with an intrinsic value. Jonas favours an extension of rights also to nature and the stipulation of a contract in harmony and reciprocity with nature (Jonas, 2000, p. 4). The natural landscape is pre-cultural, in which we are deeply rooted and to which we belong. This means that we are connected on a psychic-organic level with the landscape understood as *bios* as it is part of both our organic and subconscious life (Brugiatelli, 2020, pp. 101-103).

The overall enhancement of the landscape

The wealth and variety of such syntheses depend on the richness and variety of life. Ethos, in terms of ecologically aware living, translates into actions respectful of the richness and variety of living things and their behaviours without accelerating chaos (entropy) in nature (Venturi Ferriolo, 2002). Our actions must respect the natural landscape and be aimed at re-use rather than waste by supporting the circularity of natural processes at the expense of the destructive linearity of the market-oriented production processes. The landscape is enhanced if accompanied by responsible transformations for future generations. From this viewpoint responsible enhancement involves improving the quality of living in close relation to the quality of the environment. But what do we mean by “enhancement of the landscape”? There is no unequivocal answer, if anything, it is provided by a set of different enhancements.

The aesthetic enhancement of the landscape, beyond its romantic and idealistic acceptance, originates from the enhancement of the environment and living. Enhancing the environment means adopting codes of behaviour together with respectful and pondered techniques regarding the management of resources, the transformation of raw materials, the production and transportation of goods, waste disposal and biodiversity. The enhancement of living means urbanisation and construction in a way which guarantees the safety of the inhabitants in the case of

catastrophic events caused by atmospheric phenomena or events relating to the geomorphology of the land and sub-soil. In addition, it means building in order to create places which promote human interaction and numerous possibilities to interact with the environment through activities like gardening, cultivation, walking for pleasure and sports. It also implies a diet composed of certified organic food etc. The overall enhancement of the landscape thus requires the enhancement of a whole series of components of the territory, the environment, the history and the culture.

Conclusive considerations

We believe it is time to achieve an alliance and interaction between the cultural landscape, which is the result of human behaviour and the “anthropization” of the land, and the natural landscape as an outcome of the diversity of living things and their behaviours. Modern man has strikingly accelerated biological time leading to a significant increase in entropy with the consequent disappearance of numerous species. The Third landscape changes form and dimension through the “market game and political game”. This strong pressure involves a regression of diversity while weak pressure facilitates “balanced diversity that can positively influence the general environment” (Clément, 2004, p. 36) and, consequently, fosters man’s psychic-physical well-being. Thus, the Third landscape commits man-citizen from an ethical and political point of view.

A democratic philosophy of the Third landscape is needed to foster the formation of a collective awareness. Consciousness on an individual level results from a process of the gaining of awareness of our “co-belonging” to the biodiversity of the landscape. Such awareness can be fostered by a non-instrumental attitude, by an understanding of nature. Without doubt, such an approach may enhance awareness that we humans play an interactive role in a network of exchange and interrelationships being part of a complex system (complexus). As Edgar Morin explains, complex means a system in which all the parts are interconnected. The task of collective awareness, fostered by the ethics of responsibility, is to delineate and realize a project which involves the democratic and political community. It is important not to confuse or to separate ethics from politics. A “debated reciprocity” is necessary to avoid conflict which can be overcome when politics allows itself to be guided by the ethics of responsibility. When motivated by an ethical code, politics serves the whole community rather than only benefiting a few.

Today we still observe profound immaturity and, in that sense, lack of acknowledgement-awareness regarding the human condition. Mankind requires a programme of individual and collective, and ethical and political awareness with regard to its belonging to the Landscape-World. As stated by Edgar Morin as living beings on this planet, “nous dépendons vitalemment de la biosphère terrestre ; nous devons reconnaître notre très physique et très biologique identité terrienne” (Morin, 1999, p. 25).

Considering the landscape as a cultural product must therefore be integrated into the pre-existing biological landscape. The global landscape is a bio-cultural landscape for us to acknowledge as part of the process of gaining *ecological awareness*, defined by Morin as the awareness of living with all mortal beings in the same living sphere (biosphere). "Recognising our consubstantial link with the biosphere leads us to the abandonment of the Promethean dream of the dominion of the universe to foster, to the contrary, the aspiration of conviviality on Earth" (Morin, 1999, p. 41). At this stage, we urgently need an education based on the ethics of global awareness linked to ethical and political responsibility towards biodiversity.

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Old-New Challenges? Poverty and Menstruation: Young Girls and Women in the Mirror of Disadvantaged Situation

Anna Perge

Faculty of Health, University of Miskolc, Assistant professor

Andrea Rucska

PhD, Faculty of Health, University of Miskolc, Associate professor

Abstract

Disadvantaged situation means not just a kind of negative social phenomenon, but its effects manifesting on the economic and social fields are also significant. Regarding its complexity, a holistic view is necessary to approach it, and explore the developed situation, define solution proposals, promote a better quality of life and finally, to monitor prevention processes and revise the proposals if necessary. In case of disadvantaged situation, the involvement of children and women requires special attention in all aspects. The Creative Region research group launched its various research in the multi-stage research of the Higher Education Institutional Excellence Program (in Hungarian: Felsőoktatási Intézményi Kiválósági Program, FIKP) started in 2018 on the University of Miskolc, in which the staff of the Faculty of Health got the opportunity to conduct the comprehensive health mapping of the rural population with the involvement of 25 settlements. Based on the results of the FIKP research, it has been supported from more approaches that disadvantaged situation and deprivation can significantly determine the health behaviour, health consciousness and future life prospects of people living there. The comprehensive research examined the characteristics of the health status of people living in disadvantaged settlements along different dimensions. Getting to know the mental health of young girls and the issue of menstruation days among both them and the adult female population were essential elements of the research. During data recording in 2018 with student girls under the age of 14, we experienced in a high number that the girls' mental well-being was not ideal, and this also manifested in mild to moderate depression at more of them. The presence of domestic violence affecting them is also not negligible in the region. Our research performed in 2019 also supports that anxiety and the feeling of shame appear strongly among young girls on menstruation days as well, and a certain level of the omission of menstruation hygienic products can also be experienced in the

region. Data collection performed in 2020 focused on the adult female population in which we experienced the similar phenomena as in case of young girls. In connection with showing the direction of the areas to be improved and defining the promoting prevention health promotion advice, we should have had to strive for adapting to the population's demands and the professionals' flexibility which support the more favourable acceptance of the proposals. The significance of individual care, individual competence improvement and personalized counselling and help is indispensable.

Keywords: poverty, disadvantaged situation, young girls, women, menstruation

1. Introduction

Public awareness is still interpreting the definition of poverty from selected points of view: it is limited to the lack of infrastructural conditions, the lack of adequate quantity and quality of food, or the omission of certain tangible assets. But what could be the consequences of that if this broad definition with a comprehensive meaning¹ is approached only from certain sides? All these can cause that issues on the "fringe" will be pushed to the background, and measures to eliminate poverty are often aimed to the cessation of the mentioned deficiencies. In terms of the areas mentioned less, the issues of intimate hygiene and experiencing the closely relating menstruation days are especially significant.

In Hungary, children in the period of sexual maturation are helped with information lessons to understand the process of menstruation, and the issues of personal hygiene and healthy lifestyle are emphasized in the transfer of health-related information during teaching health sciences (Ministry of Public Welfare Decree No. 26/1997. (IX. 3.) on school-health services). Besides these, the field of women's protection is also emphasized among the tasks of primary health care (Ministry of Health, Social and Family Affairs Decree No. 49/2004. (V. 21) on Regional Midwife and Health Visitor Service. In Hungary, thanks to several initiations, young girls and women living in difficult circumstances have received disposable products in the last years², however, menstruation is still often a taboo topic. And the issues of menstruation and the existence of intimate hygiene products hardly ever come up in connection with poverty.

¹Rudolf ANDORKA discusses the issues of deprivation, disadvantaged situation, highly disadvantaged situation, absolute poverty and relative poverty under the definition of poverty in his approach.

²The #*lánýbólñóvé* (#*fromgirltowoman*) program of the Hungarian Red Cross in the school year of 2019/2020 and the staff of the Faculty of Health, University of Miskolc in the frames of the FIKP project in 2020 transferred the donations collected by the #*nefluxustáska* campaign (#*notluxurybag* campaign) to disadvantaged settlements.

The question is how poverty influences a biological process that is accompanied to a woman's life for decades from the occurrence of menarche, such as poverty as well, so these two are inseparable, and they should be treated together.

Several initiations aimed to terminate poverty and fight against inequalities can be found globally, and so in Europe (Ksh, 2020). The fight against poverty and the reduction of its consequences has special significance in Hungary. A project of the University of Miskolc has been launched in 2018 with the permission of a research ethics committee¹, under the name of Higher Education Institutional Excellence Program (In Hungarian, Felsőoktatási Intézményi Kiválósági Program, hereinafter: FIKP).

2. Literature Review

Justification of the research

The 25 settlements involved in the FIKP program were selected from one of the most underdeveloped regions of Hungary, the region of Abaúj in Borsod-Abaúj-Zemplén County (Rucska et al., 2020a). The settlements of the region involved in the research are beneficiary from socio-economic and infrastructural aspects, and/or they are settlements where unemployment significantly exceeding the national average should be expected [Government Decree No. 105/2015. (IV. 23)]. The staff of the Faculty of Health, University of Miskolc has set itself the goal to get know the health status of the region's population based on monitored data, and they intended to map the factors affecting it. The multi-stage research focused primarily on the children population (Rucska et al., 2020b), and then the adult population.

During the research, it has been supported from several approaches that disadvantaged situation and deprivation have negative effects on children's development (Fritz & Perge, 2020). Children's poverty is not limited to only the financial aspect, but a much more wider interpretation is also needed to map the affected children's future life prospects and life chances (Perge et al., 2019). It is not a negligible certainty that due to poverty or financial deprivation, several factors can be observed among families raising children that significantly contribute to the negative influences on children's development (Perge, 2021). To represent the problem's complexity, the factors influencing the health of families nursed in the settlements should be approached among different dimensions, which can often occur as chance disadvantages in terms of children's development (Perge, 2019).

In social terms, it manifests in the high vulnerability rate², which can develop due to health and/or social reasons (Perge et al., 2020a). All of these have effects on children

¹ The study was approved by the Regional Research Ethics Committee (IG-102-298/2018)

² In Hungary, there is a legally secured, organized system in the issue of children's vulnerability: we should pursue to prevent vulnerability and complications even from the prenatal period, from the registration of a pregnant woman, and to recognize them in time [Ministry of Human Capacities Decree

directly. The affection of children from the aspect of vulnerability requires increased care in all cases. The help of professionals getting in connection with the family during nursing includes tasks necessary for the families' everyday life, transferring specific knowledge, and teaching necessary skills for the daily activities to contribute to the organic, mental and social development of children requiring special care, promoting their social development and guide them to a positive direction. By holistic thinking and cooperation, as a team-work, professionals can take essential steps to improve the affected people's health status and life conditions in order to reach a better quality of life (Perge, 2020).

The occurrence of the high proportion of families unable to heat their homes sufficiently should be mentioned. Inappropriate housing conditions have also emerged from the data in families expecting or parenting a child¹ : such as not resolved wired drinking water or gas supply, the lack of a restroom or the high rate of non-flushing toilets. The existence of a bathroom has also showed deficiencies. Vulnerability and the number of people living in the same household occurred in inverse proportionality. On average, 6.2 persons lived in the same household in socially and medically vulnerable families, 4.6 persons in only medically vulnerable families and 6 persons lived together in only socially vulnerable families. In households where no vulnerability presented during the data recording, 4 persons lived together on average (Perge et al., 2020a). Data processed in the research have highlighted that these serious house quality problems, housing poverty affects a great part of the region.

Besides that disadvantaged situation is a socio-economic problem, it is a medical problem as well. Both quality and quantity deficiencies of nutrition could be detected in the research performed among children living in disadvantaged settlements (Sztójev-Angelov, 2020). In connection with oral screening in the study of Faragó et al. (2020), in which 128 students were involved, the lack of permanent teeth, children's low or completely missing motivation, and, additionally, the parents' socio-economic situation and their inadequate example setting also mean a great problem besides the infrastructural and dental care deficiencies (total absence of the number of filled teeth). Based on the data of the FIKP research (Perge et al., 2020b), the

No. 26/2014. (IV. 8) on Pregnant Care]. Besides these, enhanced monitoring and help, the increased care itself is ensured in case of vulnerability from new-born age to the time when starting student status, during children's care [Ministry of Health, Social and Family Affairs Decree No. 49/2004. (V. 21) on the Regional Midwife and Health Visitor Service]. The professional(s) getting in connection with affected families in a nursing-educational institution are the members of a signing system [Ministry of Public Welfare Decree No. 26/1997. (IX. 3) on school-health services]. Disadvantaged and highly disadvantaged children and students require special attention [Act CX of 2011 on National Public Education].

¹Pregnant women, families parenting a child/children aged 0-6 and children aged 7-18 and not visiting any educational institutions were listed here.

parents' financial situation is also likely to contribute to that children with visual problems do not have glasses and they do not visit ophthalmic care regularly.

In 2018, Rucska et al. (2020c) mapped the mental health of girls under the age of 14, what was also extended to the diagnostic condition assessment and the effects of the protecting factors. The values of the development of anxiety increase by the progression of age ($p = 0.012$), and significant difference could be experienced in case of genders ($p = 0.00012$); girls are more anxious than boys. A medium strength correlation could be detected between depression and anxiety ($r = 0.47$). Children involved in the research, based on their own confessions: 5.5% of them are victims of domestic violence, and several of them are afraid of a person who could hurt them physically. These persons live mostly in the children's environment, and this type of violence affects young girls more often. School violence also occurs among the answers, and its victims are mostly boys. The lack of social relationships could also be observed in more children, they do not share their feelings with anybody. More than 50% of the youngsters tell their problems to friends, 27.5% discuss their problems with their parents (Rucska et al., 2020c).

In case of disadvantaged situation, the involvement of children and women requires special attention in all aspects. Children need special attention, since the effects of disadvantaged situation occur in numerous fields in their case, in terms of health culture and health behaviour among others. Children growing up in poverty live among us, so do girls live in menstrual poverty. This social, economic and medical problem requires studies that are aimed to the affected children population and the menstruation issues affecting them.

3. Methodology

3.1. Research goal

The comprehensive research focused on young girls and women living in disadvantaged settlements. Its goal was the mapping of girls' mental state linked to menstruation in the period of menarche, and the examination of certain intimate hygiene habits on these days among them. In case of the adult female population, we intended to examine their mental condition and their menstruation-related habits already existing. Additionally, the aim of the research was providing a kind of guideline for professionals to define prevention activities in the area in the mirror of the results, by highlighting the possible points of intervention.

3.2. Materials and Methods

The examination was preceded by wide literature review, the results of the FIKP research started in 2018 on the University of Miskolc created the baseline of the study, and the issue of menstruation of adolescent girls living in disadvantaged settlements came to the foreground as the next step of the multi-stage empirical research. The program called #lánybólnővé organized by the Hungarian Red Cross

happened at the time of the research, during which student girls in class seven of the primary schools of 13 disadvantaged settlements connected to the program¹, and the campaign called #nemluxustáska was also organized in January 2020 by the Hungarian Maltese Charity Service². The research was conducted by connecting the experiences gained on these different fields, by focusing on the certain social and also medical problem. Disadvantaged situation was the main direction of the quantitative empirical survey, and within this, menstruation and mental status topics were examined (including but not limited to). Priorly, based on the feedback of the school directors and professionals taking part in the nursing-parenting processes, none of the girls showed signs for that taking the questionnaire would not present real results because of any excluding causes.

We received the examination data by taking a questionnaire. Data recording of the questionnaire happened by the help of measuring commissioners both among young girls and adult women. In case of the young girls, we used a questionnaire by which children could characterize themselves (Perczel-Forintos, 2018): the children's version of the Spielberger's adult State-Trait Anxiety Inventory developed in 1973³ that is suitable for measuring the anxiety level of schoolchildren. By filling the validated questionnaire, the achieved score could be minimum 20 and maximum 60. Counting the total score, the values above 38 show high anxiety level in case of state anxiety. Adapting the questionnaire by the help of the 20 items of the State Anxiety Inventory during the research, besides mapping the mental status related to menstruation, it had been complemented by questions on certain hygienic habits. Some of the items were analysed separately, because regarding the situation, they are able to provide a guideline for professionals independently in the field of preventive interventions as well. The research strived to get answers for 100% of the statements. In the end of the questionnaire, the respondent girls had the opportunity to write down their questions (in a lot of cases, they did not want to ask in front of their mates), which were answered after the collection of the questionnaires, ensuring anonymity.

The children's parents/guardians had priorly received written information about the program⁴, and then, based on the information included in the leaflet, they filled a written declaration of consent. The research was performed in a 3-month period from October 2019 to December 2019. During this period, 185 student girls in class seven of the primary schools filled in the questionnaire, and 140 questionnaires were assessable after clearing data. Since we strived for providing calm and safety

¹ I joined to the program as a volunteer, I made information discussions in the schools as the teacher of the Faculty of Health, University of Miskolc and also as a health visitor.

²The University of Miskolc provided several sites for the campaign.

³ State-Trait Anxiety Inventory for Children, STAI-C, Spielberger, C. D. 1973, translated by.: K. SIPOS

The leaflet detailed the followings: permission of the program, goals of the program, requests for parents/guardians, the content of the questionnaire, a short information presentation for children, the voluntary and free availability of the program, information for confidentiality.

atmosphere and excluding disturbing external effects during data recording (we did not look into the answers during answering), more girls could not give scorable answers.

The designation of disadvantaged situation did not apply to persons, we took it into account at choosing settlements and schools. The mean age of the sample was 12.96, the youngest respondent was 12 years old, the oldest was 15, its median was 13. 23 student girls marked the “not menstruating yet” answer. At the time of data recording, 27.89% of the respondents marked that they were menstruating on that day, so we are talking about a retrospective trial in case of 72.11% of the respondents. According to the best of our currently knowledge and possibilities, we are unable to ensure that all the girls fill in the questionnaire at the time of their menstruation: human resources are not available for this, and we have to count with the infrastructural deficiencies as well (not everyone has a smart phone via which she could reach the questionnaire), and anonymity would also not be ensured in all the cases.

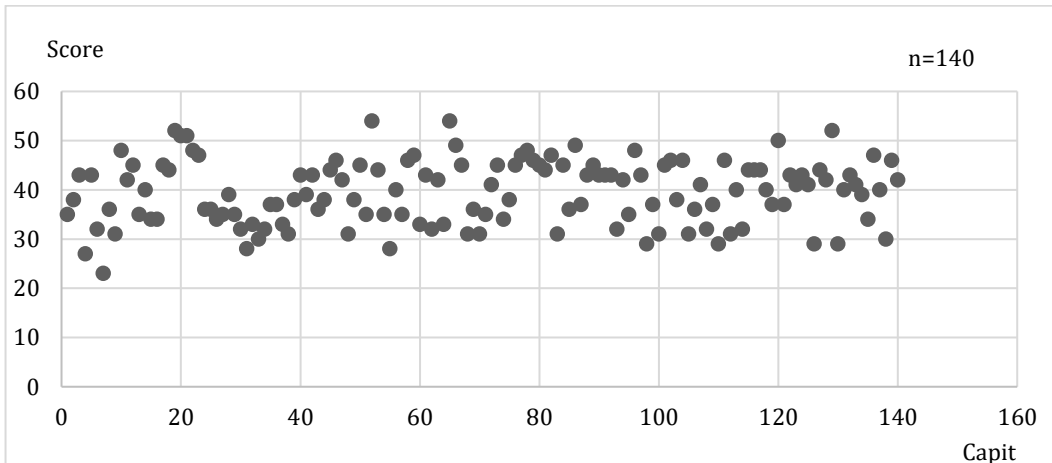
Data collection among adult women was performed in 25 disadvantaged settlements, during which we used the Spielberger State-Trait Anxiety Questionnaire and Beck's Depression Questionnaire over the items focusing on demographic background information and menstruation. The Spielberger state anxiety or momentary anxiety self-filled questionnaire consists of 20 items (Perczel-Forintos, 2018). The scale is suitable to assess anxiety as a personality trait, to measure interim anxious conditions characterized by the feeling of fear experienced subjectively, anxious waiting and the feeling of conscious tension, and resulting in the increased excitement of the operation of the vegetative nervous system. The experience changes for the effect of environmental changes. The questionnaire shows the value of the strength of the tendency to anxiety. The applied questionnaire contained 20 items; the respondent could give points from 1 to 4 according to how much the statement was typical for her. The level of anxiety is assessed based on the total score and compared to a standard value (Rucska et al., 2020c). The value of the scale is minimum 20, maximum 80 points. The questionnaire was filled by 203 women between the age of 18 and 83, and their mean age was 39.4 ± 15.4 years. Women involved in the examination live in highly disadvantaged settlements of Abaúj region. Most of the participants have low educational level (8.4% is under the basic qualification, 31.8% has basic qualification). 66% of the respondents have a job. Most of the non-working respondents raise children (30%), live from temporary jobs (21.3%), are searching for a job or retired (18.8%), and some of them are students (7.5%). Most of them are married (43.1%) or live in a cohabiting or partner-like relationship (11.1%). 11.1% of the examined women are single, 3.2% is divorced and 7.5% is widow. 13.3% of the women are currently pregnant.

4. Results

4.1. The occurrence of anxiety among children on the menstruation days

The first part of data recording focused on mapping the mental state during the days of menstruation. By the state anxiety questionnaire, the lowest point is 23 and the highest is 54 that shows a very high anxiety level, and it could be detected at only 2 persons in the sample. A great part of the student girls giving valuable answers (58.57%) got 38 or a score above it which was considered as quite strong anxiety. The anxiety level during menstruation was lower at 5.71% of the respondents, it was under 30 points (Figure 1). One of the girls showing the highest anxiety level menstruated on the examination day.

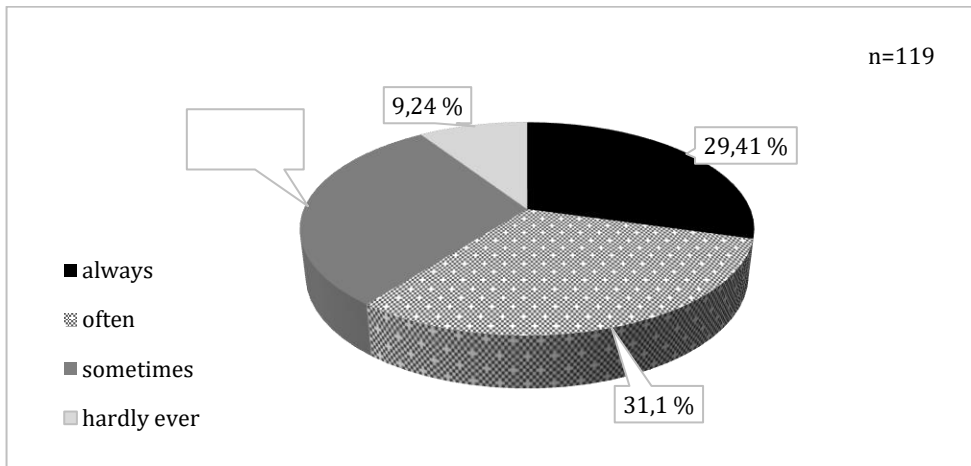
Figure 1: State anxiety level during menstruation



Source: edited by the author

The research also dealt with the issue of shame. 80.92% of the student girls marked that feeling ashamed happens with them during menstruation. 78.29% of the respondents also marked its frequency. Always, often and sometimes were marked in closely the same rate. According to the answers, 29.41% always feels shame during her menstruation period, 31.1% feels it often and 30.25% marked sometimes. Among those who marked the frequency of feeling shame, 9.24% feels it rarely during her menstruation (Figure 2).

Figure 2: Frequency of shame during menstruation



Source: edited by the author

4.2. Intimate hygiene habits among young girls

The research focused on the category of used products; quality issues were not examined. Most women of the sample marked the use of sanitary pads, often combined with pantyliners. The respondents marked the use of pantyliners in more cases, and it is essential to mention here that products on the Hungarian market contain more pieces than in case of sanitary pads. One respondent marked the use of tampon besides sanitary pad.

A 13-year-old girl, who had her first menstruation at the age of 12, uses pantyliners and old clothes and textiles to catch menstruation blood, which are changed in almost every hour at home and in almost every break in the school. In her case, the anxiety level was experienced to be high with 46 points, and according to her answers, she often feels shame during her menstruation.

3 girls from the sample answered that they use handkerchiefs besides pad(s). Two of them showed high anxiety level on the state anxiety scale, although, all the three of them feel some shame on the menstruation days.

Habits were examined from another perspective as well: according to the using interval of the products. Regarding the frequency of changing these products during menstruation, one girl marked that she changed pads maximum twice at home and once in the morning at school. Regarding her anxiety level (41 points), she received a high score, and based on her answers, she often feels shame in these periods. Two girls answered that they change pad once a day at home, one of them twice a day at school. In their cases, one girl's anxiety level was 44 points, the other menstruated on

the day of answering, and according to her answers, she always feels shame during her menstruation.

In connection with habits on school days, we experienced that 13 persons do a change once during staying at school in the morning, 22 persons do this maximum twice and 4 persons do not change any products at school. Among girls staying until the end of the afternoon lessons, 2 persons change maximum twice, 1 does not change, 1 does not change or maximum once in the afternoon and 1 person changes once in the morning.

4.3. Hidden “messages”

The respondents had the opportunity to ask questions both orally and written, from what we could get an image about the issues concerning the girls mostly in connection with menstruation. They were also interested in other areas, such as sexuality and certain gynaecological issues that often occur as taboo topics among them. Extremes can be felt very strongly in connection with the topic, questions related to the reception of menstruation occurred in one class, but others in the same group were interested in the topic of pregnancy and sexuality.

The age when menstruation had occurred among the girls was recorded in the research. The earliest menarche in the sample was at the age of 9, the latest was at the age of 14, its median was 11. The difference between the menarche data and the mean age of the sample (12.96 years) was almost 2 years. In this approach, the demand for presentations for information lessons and creating efficient habits occurs in the lower classes of the primary school.

4.4. The issue of adult women’s menstruation

In case of the adult women, we asked them about what they used for catching menstruation blood (Table1). The respondents could mark more products as well.

Table 1: Devices used for catching menstrual discharge

1. sanitary pad	58.8 %
2. tampon	39.4 %
3. pantyliner	20.4 %
4. cotton	2.3 %
5. paper handkerchief	2.3 %
6. clothes, textile	0.9 %

Source: edited by the author

It can be observed that sanitary pads are the most used tools. Women using sanitary pads mostly use pantyliners as well ($r=0.328$), as tampon usage is also accompanied by pantyliners ($r=0.524$). Other textiles, cotton and paper handkerchiefs are used by

women with lower education level, while more qualified women prefer sanitary pads and tampon.

6% of the respondents answered that it had happened that she had not had anything to use during menstruation. Its frequency was quite variable (Table 2).

Table 2: Frequency of the lack of tools

<i>Frequency</i>	<i>Percentage</i>
<i>monthly</i>	<i>46.2</i>
<i>More times every six month</i>	<i>15.4</i>
<i>Every six month</i>	<i>3.8</i>
<i>A few times a year</i>	<i>11.5</i>
<i>Maximum once a year</i>	<i>19.2</i>

Source: edited by the author

It can be observed from the answers that it happens with 46.2% of the affected women monthly that they do not have anything for catching menstruation discharge. This tool deficiency happens with women who marked tampon ($r=0.254;p<0.005$), cotton ($r=0.348;p<0.005$), paper handkerchief ($r=0.4;p<0.001$) and textile ($r=0.269;p<0.034$) as a catching tool.

In terms of anxiety, the mean value of the asked women is 43.5 ± 7.5 which corresponds with an average anxiety level, but 10% of the respondents fall into the critical range¹. Women using tampon ($r=0.216;p<0.017$) and paper handkerchief ($r=0.344;p<0.005$) during menstruation for catching blood are the most anxious.

Discussion

Regarding the answers of girls living in disadvantaged settlements examined in the occurrence period of menarche, most of them show strong anxiety level during menstruation (58.57%) based on their subjective judge. We are talking about a retrospective trial in most cases, but it can be observed as a tendency that shame also strongly occurs (80.92%) besides the high anxiety level among young girls during the days of menstruation, which happens mainly always, often and sometimes. Similarly to the examination of Rucska et al. (2021c), the method applied in our research has been proved to be effective among both young girls and women living in disadvantaged settlements. During the earlier examination, a significant difference could be detected in case of genders: student girls under the age of 14 were more anxious than boys (Rucska et al., 2021c); in this current research, the analyses of the

¹Values above 53 points mean serious anxiety.

mental state of seventh grade girls on menstruation days also show the powerful occurrence of anxiety among them. In connection with the intimate hygiene products, deviation can be detected in both of the used products and the frequency of their changes. Different interests may be given by the problems of the age. The different ages and biological particularities could result in that further questions emerged over menstruation in terms of sexual behaviour and gynaecological problems.

In those women who often suffer from the lack of tools during menstruation, a high percentage of them misses these tools monthly. Higher anxiety level is typical for those in their case, who use tampon and paper handkerchief on the days of menstruation.

Conclusion

We have to strive for reducing the negative effects of disadvantaged situation on children as early as possible. A holistic point of view is necessary to approach and explore the problem, and to provide proposals for the solution.

During our efforts for changes, flexibility and the adaptation of the population's demands is indispensable from the health and educational professionals. Promoting the health-conscious lifestyle of the growing generation is a complex exercise. Besides the presence of professionals, it requires the receptive behaviour of children and their educators, parents.

Regarding that the relationship between menstruation and poverty is a less researched field, the national and international literature difficult to be found justifies further research. A comprehensive research approaching from different dimensions would be necessary on the field, which would examine the differences between generations, and analyse how much disadvantage situation affects the experience of menstruation days. Besides this, in future studies, drawing further evidentiary conclusions would be necessary by the increase of the element number and the conduction of in-depth interviews.

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