STRATEGIC MANAGEMENT OF DIGITAL SYSTEMS: INNOVATIVE PAY-TV SERVICES THROUGH MULTIPLE DIGITAL PLATFORMS

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Abstract— Innovative pay-tv via multiple digital platforms is one of the most important factors for pay-tv success and many issues related to this area remain unexplored. The limited literature on digital strategy influencing pay-tv services through multiple digital platforms and the absence of a methodological framework that explains key strategic management factors, form an important research problem that requires further study and deeper investigation. For this reason, the aim of this research in progress paper is to identify and analyze key strategic management factors of innovative pay-tv. The proposed approach is significant as it:(a) adds a new dimension to existing strategic management frameworks by investigating a research area where limited research has been done, (b) facilitates media corporations in making robust strategic decisions for digital systems and innovative pay-tv services and (c) expends the body of academic knowledge in this area.The publication of this paper has been partly supported by the University of Piraeus Research Center.

Index Terms— Strategic Management, Digital Systems, Pay-Tv.

I. INTRODUCTION

Media corporations have turned to Information Technology (IT) to automate their business processes and services. In doing so, they seek for secure, advanced integrated IT infrastructures to provide efficient pay-tv services via multiple digital platforms (pc, tablet, mobile phone, laptop etc.). In addition, a key driver of all long-term successful media corporations is to develop and maintain strategic competitive advantages. Thus, strategic management is significant to any company or organization operating in competitive markets [1].

Particularly in a digital world, where new technologies create new opportunities and challenges, strategic management related to: (a) analysis, (b) design, (c) development, (d) implementation, (e) maintenance, (f) upgrade and (g) management of digital systems needs to be aligned with the overall strategy to meet effective the business objectives [2, 3]. This paper focuses on key issues like: strategic management and pay-tv in order to identify and analyze key strategic management factors.

As strategic decisions on digital media are based on future expectations uncertainty is always present and there is a need for effective strategic management [4, 5]. In addition, pay-tv services have been adopted and used by many citizens and according to recent surveys international pay-tv penetration is expected to rise to 64% by 2019 [6]. Such figures illustrate that pay-tv is an interesting fast growing area. As competition in this area increases, media corporations focus on pay-tv services via innovative multiple platforms. Pay-tv services on demand is an interactive TV technology that allows subscribers to select and watch video content when they choose to. Video on demand systems usually stream content allowing viewing in real time and/or download programs via a standard TV receiver along with a set-top box or over the internet. Internet television, is an increasingly popular form of video on demand and the service is delivered over the internet to pc, tablets, mobile phones, laptops and advanced digital media devices.

In this research a factor-oriented approach is introduced to investigate strategic management factors in pay-tv and to provide an innovative strategic management framework for pay-tv services through multiple digital platforms. In doing so, the author seeks to: (a) highlight the importance of strategic management, (b) highlight the importance of digital pay-tv, (c) identify and analyse strategic key factors of innovative pay-tv services, (d) identify a suitable categorization of factors and (e) classify and analyse phases of the process of innovative pay-tv adoption.

The remainder of this paper is organized as follows. Section 2 introduces a strategic management framework that was built and successfully tested in the banking sector in projects related to digital banking [7, 8]. Banks are early IT adopters and large IT investors [9]. For that reason, the results from research in digital banking might be useful in other research fields that are considered as laggards such as digital media and internet television. We then outline our research methodology in Section 3 and Section 4 discusses the selected case organization.Our future research agenda and conclusions are presented in Section 5.

II. STRATEGIC MANAGEMENT FRAMEWORK FOR INNOVATIVE PAY-TV SERVICES

To situate the current study and to provide context related to innovative pay-tv we review the normative literature. The literature review is conducted through an extensive search on books, journals, conference

proceedings and working papers published after 2005 using libraries and database search engines like AISel, IEEE Xplore, ProQuest, Science Direct, Google Books and Google Scholar. In a first step we use keywords like: "strategic management ininnovative pay-tv" and limited matches are found for the criteria specified.

For that reason, we use keywords like: "strategy" and "pay-tv" to investigate this area and to identify and select from a large amount of hits papers and books for deeper investigation and analysis. A review with a procedure outlined by Webster & Watson, (2002) is used in this research to describe, summarize, evaluate and clarify the investigated research area. In addition, the researcher analyses and compares strategic management frameworks in order to investigate this issue.

The critical analysis of the literature review indicates that: (a) pay-tv services via multiple digital platforms such pay-tv through mobile banking, pc, tablet and laptop are important for pay-tv success, (b) there is no study on analyzing strategic key factors of innovative pay-tv adoption, (c) there is no methodological framework to explain critical success factors affecting innovative pay-tv, (d) the analysis of strategic models and frameworks indicates that several factors and classifications of factors are not similar among researchers [10], (e) while some adoption issues are relevant for any organization, others depend on the industry and type of organization and some of these differences may be pertinent to the adoption of innovative pay-tv [11], (f) digital media has different requirements and business drivers and may follow a different adoption path, (g) the adoption path in innovative pay-tv is not clearly defined and there is a confusion about the adoption content and (h) a methodological framework that explain strategic success factors for innovative pay-tv adoption is essential for media corporations to make right decisions [12, 13].
This paper concentrates on the following two interesting research questions:

R.Q.1: Which strategic key factors are crucial for the decision making process in innovative pay-tv?

R.Q.2: What are the dimensions and stages of innovative pay-tv?

In order to investigate the above research questions we use a strategic management framework that was successfully tested in the banking sector in many digital banking projects to find out if the proposed strategic management framework might be used by media corporations in innovative pay-tv projects. For that reason we decide to use this strategic management framework with a qualitative case study approach in the practical arena in projects related to innovative pay-tv. The conceptual strategic management framework illustrates the relationship between strategic management and innovative pay-tv adoption, providing a research framework for examining strategic key factors affecting innovative pay-tv. In addition, it illustrates the stages of innovative pay-tv and a classification of factors.

In the proposed strategic management framework the most important strategic factors are classified into Business Performance, Human, Management and Technical factors and three stages of adoption are proposed.

Business Performance Factors focus on factors that support organisations to make their decisions regarding the adoption of innovative pay-tv and deal with the assessment of factors like barriers, benefits and costs that have an impact on Organizational performance.

Human Factors refer to those factors that are related to the employees like fatigue, skills, stress, employees' resistance to change and culture. These factors are considered as important as they can affect employees' stance towards the implementation of innovative pay-tv projectsand therefore affect the decision making process.

Management Factors deal with at least six business issues that shape the decisions for the adoption of an innovative pay-tv solution. These factors include IT/business alignment, communication, goal, strategy, risk and governance.

Technical Factors are equally important to the aforementioned three factors' categories as they are vital for the decision making process. Since the new solution will affect the existing IT infrastructure, technical factors related to support (e.g. consultants, vendors), the IT infrastructure and the overall system security should be assessed.

The proposed adoption lifecycle in innovative pay-tv projectsimplemented in our framework has three stages: (a) initiation, (b) planning and (c) decision of adoption. The initiation phase is the first phase in the project. In this stage a business problem or opportunity related to innovative pay-tv adoption is identified and a business case which provides various solution options is defined. After defining the scope of the pay-tv project the second stage includes a detailed planning phase that involves among others: (a) a project plan, (b) a resource plan, (c) a financial plan, (d) a risk plan and (e) a communications plan. The third and last stage refers to the analysis of the previous stages that leads to the decision to adopt or not the innovative pay-tv solution. The whole strategic management framework that will be tested in a project related to innovative pay-tv through multiple digital

platforms (factors, taxonomy of factors, stages of adoption) is illustrated bellow (Figure 1).

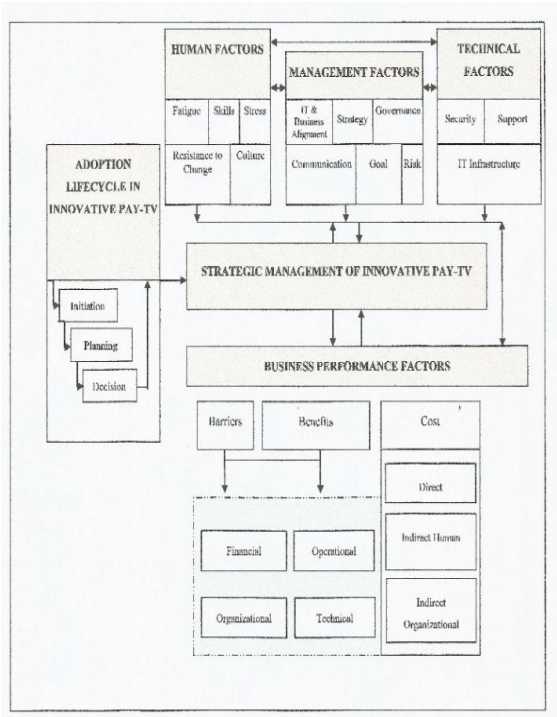

Figure 1: Strategic Management Framework for Innovative Pay-Tv Solutions via Multiple Digital Platforms.

III. RESEARCH METHODOLOGY

This research will be conducted in an interpretive manner and will employee a case study strategy. Qualitative research was used to study IT adoption in its natural setting and to learn from practice. As innovative pay-tv remains an important research area under investigationthe qualitative research method seems to be an appropriate approach to investigate and analyze the current research area [14]. The main focus in qualitative research is to understand, explain, explore, discover and clarify situations, feelings, perceptions, attitudes, values, beliefs and experiences. Key strategic factors that influence pay-tv through multiple digital platforms cannot be separated from its organizational, technical and cultural context and there is therefore a need for a qualitative research approach that allows us to understand the process of adoption and the key strategic factors that influence innovative pay-tv [15].

A case study strategy will be used to test the proposed framework in projects related to pay-tv and on demand video via the internet since such an approach seems more appropriate for the digital systems sector. A case study offers a 'holistic' view of the processes involved, as well as a realization of the topic under research. Case studies facilitate multi-perspective analyses that lead to a holistic understanding of cultural systems of action, providing the insight that satisfies exploratory questions [16]. Considerable work on ICT adoption takes the form of case studies to identify digital systems success [14]. The need for rich empirical data related to innovative pay-tv adoption indicates that the use of a case study approach is appropriate, since it allows examining in depth processes.An important aspect of a case study is the use of multiple methods to collect data that leads to obtain rich empirical data for this research.

The proposed strategic management framework will be tested in a multinational media organization. Various data collection methods such as interviews, documentation and observation will be used in this research. An interview agenda will be developed to ensure desired coverage of the areas of enquiry and comparability of information across respondents. A predefined interview protocol will be used to collect the data required for this research.
Interviews will be conducted with the employees who played a key role in a recentinnovative pay-tv project. In doing so, we will interviewmany professionals including: (a) the project manager, (b) the IT manager, (c) a manager from business and (d) the HR Director. Interviews will be lasted for around 40-60 minutes, they will be digitally recorded and transcripts will be prepared as soon as possible after each individual interview.

Telephone, Skype and e-mail communication will also be used to clarify and probe unclear issues. In addition to this, the data will be crosschecked several times to overcome the contradiction associated with data gathering across multiple sources. Interviews will be the main data source that we will used to collect data and to capture the verbatim. In most of the cases structured and/or semi-structured interviews will take place in the office of the interviewees. Structured interviews will be based on the interview agenda designed for this research. Using this agenda, the interviewees will reply to specific questions related to pay-tv through multiple digital platforms.
Semi-structured interviews will take place without the use of an interview agenda and will be conducted during breaks. These will involve a series of open-ended questions based on the topic areas we want to cover. The open-ended nature of the questions supports them to define the topic under investigation. Moreover, it provides the opportunity for both interviewer and interviewee to discuss the topic in more detail.

Empirical data derived from the casewill be triangulated and then analyzed to draw empirical conclusions. The purpose of triangulation in qualitative research is to increase the credibility and validity of the results.

IV. THE SELECTED CASE ORGANIZATION

We plan to test the strategic management framework

(presented in Section 2) in an American commercial broadcast television network, using the research methodology described in Section 3. Due to confidentiality restrictions we are not allowed to disclose the real name of the organization at this stage of research.

The researcher applied a set of criteria proposed by Miles and Huberman (1994) as a checklist, to identify the case organization. The main reasons for selecting the specific case organization are listed below. The organization: (a) is a big successful American commercial broadcast television network, (b) holds excellent reputation of the specialized services it provides, (c) recently implemented video on demand and pay-tv approaches via multiple digital platforms such as: pc, mobile phone, tablet, laptop, TV, (d) is one of the biggest player in the world based on total revenues, assets, and international coverage and (e) operates many entertainment channels in many international markets.

The case organization is an entertainment company that operates through four segments, mainly filmed entertainment, television stations, television broadcast networks and cable network programming.Withmore than 10,000 entrepreneurs, innovators and risk takers with a passion for film, television and sports the examined organizationis adiverse group that spreads around the world by a shared set of values and goals. The entertainment company has recently lunched innovative video on demand services via multiple digital platforms. Video on demand is a system that allows users to select and watch video content of their choice on their TVs, computers, tablets, smart phones and lap tops whenever they want. For that reason, the selected case corporation is an interesting research object for the purpose of this research.

CONCLUSION AND FUTURE RESEARCH AGENDA

The limited literature on digital strategy influencing pay-tv services through multiple digital platforms and the absence of a strategic management framework that explains key strategic management factors, form an important research problem. For that reason, this research presents andplans to test and revisea methodological strategic management framework for innovative pay-tv. The new proposed methodological framework will introduce innovative elements in three levels. The first level will identify the key strategic factors that should be considered by media corporations related to projects of innovative pay-tv. The second level introduces a suitable classification of this strategic key factors and the third level presents an adoption lifecycle with three phases.

The author points out that the three main components of the strategic management framework and their interrelationships should be examined with a holistic approachby a case study approach in the practical arena to find out if the proposedstrategic management framework might need to berevised to become a significant decision making tool for media corporations in projects related to innovative pay-tv and video on demand via multiple digital platforms.

We believe that the proposed strategic management framework will greatly facilitate the innovative pay-tv adoption process. In addition: (a) it will help media corporations to make robust and fast decisions, (b) it will add a significant new dimension to existing strategic management frameworks and (c) it will enrich the academic literature in this research area.

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