IRSTI 06.52

R. L. Aman[1], A. T. Kusniyeva[1]
[1]Suleyman Demirel University, Kaskelen, Kazakhstan

APPLICATION OF CLAYTON CHRISTIANSEN'S THEORY OF INNOVATOR'S DILEMMA AND INNOVATOR'S SOLUTION TO DIGITAL CAMERA INDUSTRY

Abstract: Roughly one company in every ten is able to sustain the kind of growth that translates into an above-average increase in shareholder returns over more than a few years. Once a company's core business has matured, the pursuit of new platforms for growth entails daunting risk — to put it simply, most companies just don't know how to grow, and pursuing growth the wrong way can be worse than no growth at all. The decisions about growth finally approved or made by the CEOs of the established companies. Therefore, it is the executives' mistake in making decisions about growth and innovations.

The article applies Christensen's theory to digital camera industry. It begins with the history and recent trends in digital camera industry. We then identified the established companies/incumbents, new entrants and market segments of the industry. Next, we identified the actual and potential low-end and high-end disruptions in digital camera industry. Subsequently, the last section suggests long-run and short-run R&D strategies for incumbents to manage those low-end and high-end disruptive technologies.

Finally, the findings based on the Christensen's "Innovator's dilemma" and "Innovators' solution" and the application of the theory to digital camera industry discussed and conclusion is made.

Key words: innovation management, intersecting performance trajectories, disruptive technologies, sustaining technologies, innovator's dilemma, innovator's solution, digital camera industry

Introduction

Many industry leaders can fail precisely because they do everything right. They consider good business practices, such as focusing investments and technology on the most profitable products that are currently in high demand by the best customers, to be right . There are respectful reasons for most established companies to follow this business pattern. One of the significant reasons isthe fact that the technology that satisfies the high-end market tier will bring the highest profit and return on equity. However, this good management practice can ultimately weaken a great firm in any industry. The reason is the growth pattern of a particular company in any industry starts from satisfying the lowest market tier although initially the technologies directed to satisfy the needs of lower level customers bring low profits, they will ultimately grow to

satisfy high-end customers. The dilemma for executives of incumbents is whether to be patient for growth or continuing to satisfy main customers that bring the highest profits. Many companies are impatient for this growth trend and therefore they decide to continue to develop the innovations that satisfy high market demand.

Many companies –whether they are manufacturers or service providers, high or low tech, or companies in rapidly changing or slowly evolving business environments – now face the innovator's dilemma. Keeping close to customers is critical for current success, but long-term growth and profit often depend upon a very different managerial formula. The article offers the right managerial formula for the success of incumbents by firstly identifying and discussing the reasons of the established companies' mistakes in directing technologies and innovations based on Christensen's work such as "Innovators' dilemma" and "Innovators' solution[2]".

I. Application of Christensen's theory to digital camera industry

1.1. The digital camera industry, 1980-2013

A digital camera (or digicam) is a camera that encodes digital images and videos digitally and stores them for a later reproduction[5].The history of digital cameras started at the end of 1900s. The prototype of digital camera was developed out of Sony's analog-type "Mavica" electronic camera (1981), with the first digital models being introduced by Toshiba and Fujifilm in 1989. These products didn't gain immediate acceptance in the marketplace due to their high price and the unavailability of sufficiently well-developed peripherals, i.e. PCs. Stimulated by the sales of PCs with the Windows95 operating system, the market developed rapidly following Casio's launch of the first digital camera in 1995. The market expanded further in the line with the progress of the internet.

Japan's Digital Camera Industry plays a major role in the currently flourishing digital home appliances business. Japanese companies involved in this field have demonstrated their competitive edge by riding the post 1995 sales surge to a position of global market dominance. In contrast overseas companies failed to keep abreast of the innovations in camera industry over the last 10 years. DPA GmbH reported, that AgfaPhoto in Germany had gone bankrupt. Nikon and Canon, both established conventional camera manufacturers, are working to develop the market for advanced digital single lens reflex (SLR) cameras[6].

Meanwhile, "camera-phones" equipped with miniature digital camera modules have become a rapidly expanding market category since 2001. Of the 500 million mobile phones manufactured up to the end of 2004, some 180 million were camera phones [6]. Built-in cameras generally store the images in JPEG file format. Mobile phones incorporating digital cameras were introduced in Japan in 2001 by J-Phone. In 2003 camera phones outsold stand-alone digital cameras, and in 2006 they outsold film and digital stand-alone

cameras[7]. Japanese companies such as Panasonic, Sony, Sharp and Konica Minolta, jointly meet 80% of world camera demand for the imaging devices and optical modules used in camera phones [6].

At the beginning of 2010 smartphones with integrated digital camera arrived to the market. Sales of traditional digital cameras have declined due to the increasing use of smartphones for casual photography, which also enable easier manipulation and sharing of photos through the use of applications and web-based services. “Bridge cameras”, in contrast, have held their ground with functionality that most smartphone cameras lack, such as optical zoom and other advanced features[8, 9]. In response to the convenience and flexibility of smartphone cameras, some manufacturers produced “smart” digital cameras that combine features of traditional cameras with those of a smartphone. In 2012, Nikon and Samsung released the Coolpix S800c and Galaxy Camera, the first two digital cameras to run the Android operating system. Since this software platform is used in many smartphones, they can integrate with services (such as service attachments, social networks and photo sharing sites) as smartphones do, and use other Android-compatible software as well[9].In an inversion, some phone makers have introduced smartphones with cameras designed to resemble traditional digital cameras. Nokia released the 808 Pure View and Lumia 1020 in 2012 and 2013; the two devices respectively run the Symbian and Windows Phone operating systems, and both include a 41-megapixel camera with 6x optical zoom (along with the camera grip attachment of the latter)[10]. Similarly, Samsung introduced the Galaxy S4 Zoom, a device with 16-megapixel camera and 10x optical zoom, combining *traits from* the Galaxy S4 Mini with the Galaxy Camera [11].

Research shows that Hi-tech smartphones have driven down the sales of digital cameras by twenty nine per cent in five years. Although the digital camera market was still worth £598 million in 2011, this is down by nearly a third from 2006, when it was worth £843 million [12]. Sales figure of digital cameras continued to fallwith the development of smartphones. There was a big sales drop in 2012. After a big dip of sales in 2012, consumer digital camera sales declined again in 2013 by 36 percent. In 2011, compact digital cameras sold 10 million per month. In 2013, sales fell to about 4 million per month.DSLR and MILC sales also declined in 2013 by 10–15% after almost ten years of double digit growth. These declines are attributed to the combination of superior software being available on smartphones and that the image quality on smartphones is good enough for most consumers[13]

1.2. Incumbents and New Entrants in digital camera industry

The companies that are operating at digital camera industry for many decades are Eastman Kodak, Afga Photo, Fujifilm, Canon Corporation, Sony Corporation, Casio Corporation, Matsushita (Panasonic), Konika Minolta, Olympus Corporation, and Nikon. These are the established companies at digital camera industry that had the largest market share until the last decade.

Kodak is an American company that is the first player in the digital camera industry. Afga Photo is a famous German company, that operates in this filed. Fujifilm, Canon, Sony, Casio and Nikon are all Japanese companies, who had introduced the digital camera to the market and industry leaders at digital camera industry

New entrants are small Japanese, South Korean, Taiwanese and Chinese companies. New entrants that operate as low-end disruptors in digital camera industry are Sharp Corporation, Nokia Corporation, Aigo, Vivikai (Chinese companies), BenQ, Genius, Protax (Taiwanese companies). New entrants that operate as high-end disruptors in digital camera industry are Apple Incorporated and Samsung (South Korean company).

1.3. Market Segments of Digital Camera Industry

The market was segmented based on the established companies' segmentation at their official sites. They have nearly the same market segmentation even though there are differences in the names of the segments. By carefully analysing the market leaders' segmentation and making some research, the following market segmentation was constructed.

- *Entry Level Consumer*–is the lower tier market, who demand less performance than the main market from which established firms as Canon, Eastman Kodak, Sony etc made the largest amount of profit. The compact cameras are designed for entry level customers.
- *Advanced amateur/midrange customers*–is the market tier higher than the entry level customers but lower than the high-end customers, who demand for higher performance than lower-market tier, but lower performance that higher market tier demands. Semi-professional and mid-range digital cameras such as Mirrorless Interchangeable Lens Cameras (MILC) target midrange customers.
- *Prosumer/high-end*–is the market tier between midrange customers and professional/flagship customers, who exist at the highest market tier. Premium camerassuch as Digital Single Reflex Cameras (DSRC) and Bridge Cameras were designed for prosumers.
- *Professional/flagship*–It is the highest market tier, who demand the best product performance and they are the main source of the established companies' profits. Professional camerastarget those flagship customers.

1.4. Performance Criteria, Low-End and High-End disruptions in digital camera industry

Functionality, BOC, Performance Criteria

For many years, the main bases of competition or functionality in digital camera industry was the pixel number category of imaging devices. As digital cameras with larger pixel numbers arrive on the market consumers tend to select the new models and abandon the smaller pixel number models, which results in increasing price competition in the low-end market. Increases in the pixel number lead to expansion of the market, and it is here Japanese

companies driven by advances R&D manifest their edge over foreign companies. The imaging devices are supplied mainly by Panasonic and Sony, which constantly promote development of the digital camera market, thereby providing an advantage to Japanese camera manufacturers.

Another main functionality is the design of optics. Many current digital cameras are underpinned by advanced optical design technology, as represented by optical zoom, and advanced manufacturing for glass and plastic molded lenses that were developed for optical pick-ups in optical disk drives.

The molded lens is designed to be aspheric in order to correct aberration and is manufactured on a large scale using metal molds, which are realized through various types of expertise, including mold making and lens coating. Japanese companies that are strong in optics and electronics lead the digital camera market [6].

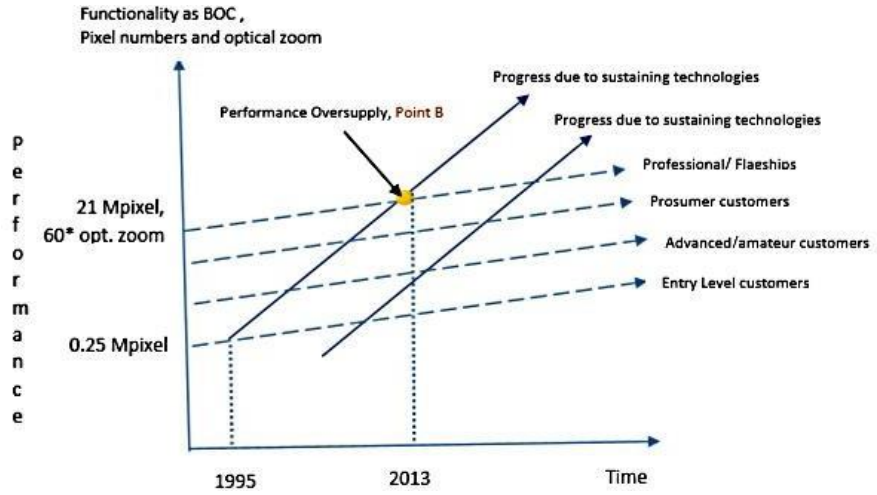

Figure 1.1 Intersecting Performance Trajectories applied to digital camera industry

All established companies focused on these features for many years. The world's first digital camera had 0.250 megapixel and included TFT (1.8-inch color) display with LCD monitor. It was produced in 1995. Established companied tried to increase the pixel numbers, quality of lenses and optical zoom to earn higher profits and to satisfy their main customers, who are professional users of digital camera such as photographers. Japanese Casio Corporation introduced the newest digital camerato the market in 2013. It has 21 megapixels and 60* optical zoom. All of the above-mentioned incumbents are sustaining these features. The incremental sustaining innovations are the improvements in the sensor resolution size and angle size, LCD screen size, focus system, burst speed, memory card and weight. As we have already mentioned the sales of digital cameras dramatically dropping year by year and the newest digital camera with 21 megapixels and 60* optical zoom, that was

targeted to highest end market, even exceeded the performance oversupply point, which means that the market for that product is low and its sales might be low. In the next sections we will define the reasons of this trend.

Low-end disruption in the digital camera industry

The sales drop of market leaders/ incumbents in digital camera industry is party associated with the appearance of new entrants producing mobile phones with built-in cameras, who carefully analyzed and identified the needs of low-end market tier and disrupted this market tier from another industry, which is mobile phone. Low-end disruptors are small Japanese Taiwanese, Chinese and South Koreancompanies. The point A in the chart below is the place, where low-end disruptive technology, phones with build-in cameras, arrived.The first phone with built-in camera was invented by small at that time Japanese company, Sharp Corporation in November 2000. It was J-SH04 model and released as J-Phone. After year in November 2001 Finnish Corporation Nokia introduced its first mobile phone with built-in camera.In addition to the existing performance criteria, which is pixel numbers, quality of lenses and optical zoom, the new entrants offered another performance attribute, which is the functions of the phone. The low-end customers do not much care about or may not afford cameras with the large pixel numbers, high quality lenses and optical zooms. They might instead prefer digital cameras with smaller pixel size, lower quality lenses and optical zooms than high-end digital cameras and plus the functions of the mobile phones that might be convenient for them. The first phone with a built-in camera had 110,000-pixel CMOS and color display256-color display.

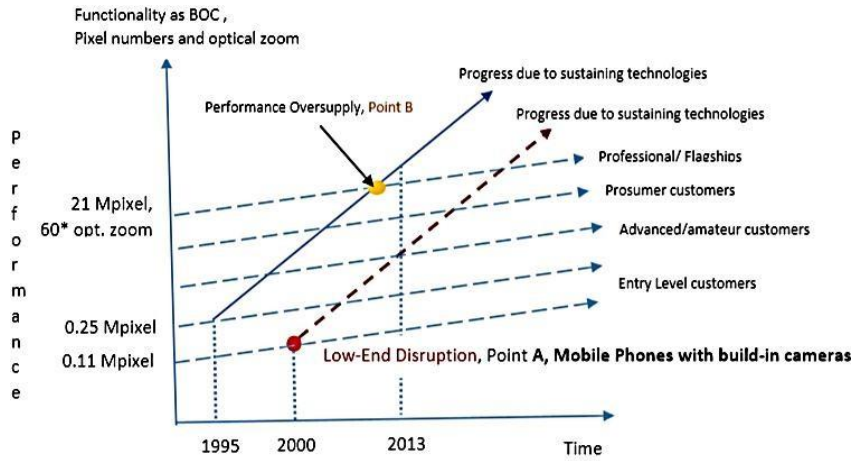

Figure 1.2 Low-end disruption in the digital camera industry

K.Tatsino's says that low-end digital cameras will plunge into cost competition rather than technical competition (larger pixel numbers). Nowadays manufacturers managed how to install more pixels to mobile phones at a low cost, which means that new entrants developed disruptive technology

in the direction of sustaining technologies.The dotted red line shows this development trend. However, installing high quality optics design into mobile phones is still a problem, although small companies, new entrants, are working to solve this problem. Despite it, market leaders in digital camera industry were progressively losing their edge in market as a whole and in 2006 mobile phones with build-in, cameras outsold film and digital stand-alone cameras. The reason of it is new entrants, who started form the lowest market tier, and dominated the low-end market tier and continued to satisfy higher-end market tiers. One fact is that in 2012 Nokia developed a phone with 41-megapixel camera with 6x optical zoom that could resemble the digital camera[6].When mobile phones with built-in cameras started to dominate the market the incumbents such as Panasonic, Sony and Samsung started to produce the same products with some additional advanced features. However, incumbents continued to lose the market share, because the new entrants had a cost advantage, which is low price.

New-end/high-end disruption in the digital camera industry

The second reason of a dramatic sales drop of digital cameras is the another disruptive technology, that appeared from nonconsumer occasion and in another performance dimension. These were the smartphones. The history of smartphones back to the beginning of 2000. The companies that influenced for the development of smartphones are IBM, Nokia and Sony Corporation. However, the high market acceptance of smartphones started with the invention of iphone. Iphone 3G, the first model of iphone, was introduced in 2007 and it had 2.8 Mpixel.Just after a year smartphones like HTC and Samsung was introduced to the market. These were the new or high market-end disruption, because the market of smartphones didn't exist until the arrival of Iphone 3G and before the arrival of smartphones people lacked skills/capabilities to use the mobile phones with build in operating system that incorporates features of the phone with the applications that were previously available only in computers. Apple corporation also had strong engineering, marketing and sales team to teach created market with the skills required to use the smartphones.

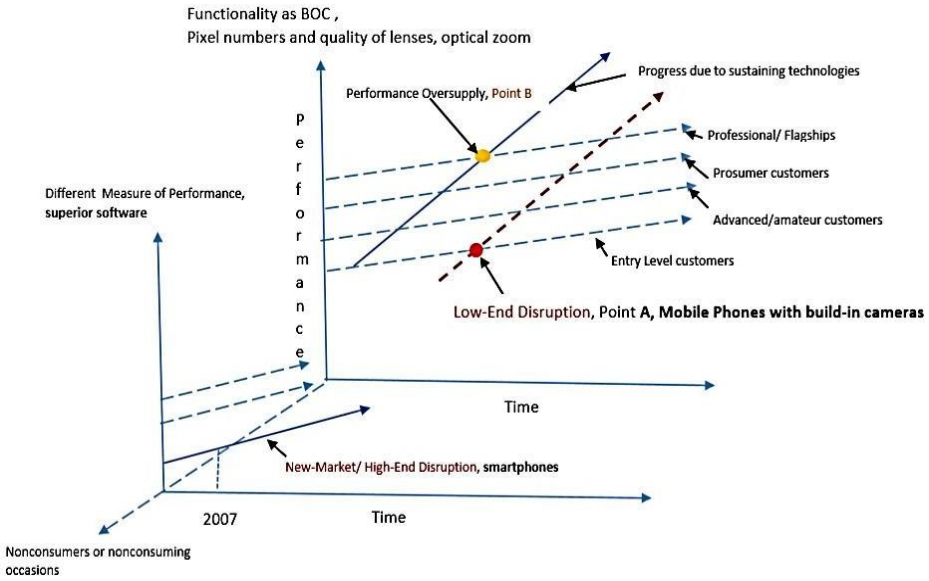

Figure 1.3 High-end or new market disruption in digital camera industry

Another performance attribute that existed in high-end disruption/smartphones were a superior software. This software allowed to use many applications that made the people's life more convenient. In addition, it allowed to increase the quality of the installed cameras (quality of optical lenses, zoom options and pixel numbers). The first batch of smartphones that gained high acceptance in the market had incorporated cameras with nearly 3 Mpixel. Established companies in digital camera industry didn't pay attention tosmartphones as it operated in another new market until their revenue dramatically decreased.

Starting from 2010 the digital camera experienced huge sales decline. When they realized that the smartphones started to dominate the digital camera market, in response to the convenience and flexibility of smartphone cameras, some manufacturers produced "smart" digital cameras that combine features of traditional cameras with those of a smartphone(such as service attachments, social networks and photo sharing sites)[9]. However, they didn't gain the high profit, because at the time when incumbents in digital camera industry realized this high-end disruption, it was too late to improve the situation in the market. Moreover, smartphones kept developing in the direction of digital camera industry, the newest iphone 5c has 8 Mpixel, improved video stabilization, infrared cut-off filter, back-illuminated sensor, face detection, panorama, ability to take photos while shooting videos and burst mode. This means that smartphone industry started to capture the higher-end market tiers of the newly created market and market of the digital camera industry, which caused huge sales drop in the latter industry.

1.5. Suggested strategies for the CEO's of incumbents in digital camera industry

In order to sustain their already deteriorated position already deteriorated, the leaders of established companies should have different strategies regarding sustaining technologies, low-end disruptive technologies and high-end disruptive technologies.

Strategies for sustaining technologies

The short run R&D projects of established companies should focus on sustaining its existing technologies both radically and incrementally by taking into consideration the extendable core of the disrupters. The mistake of the established companies there was the focusing on just sustaining technologies to satisfy main customers, who brought the largest profit and did not realize that even for the highest market tier, professionals, the digital camera was oversupplied and the digital cameras became commodity products. The right strategy here is creating a venture capital fund, that is patient for growth, but impatient for profit. Instead of allowing digital cameras to become

commodity, established companies should realize that de-commoditization occurs in the places in the value chain, where attractive profits were hard to maintain in the past. This place is the lowest market tiers, who initially would bring low profits. Incumbents should focus on the lowest market tier equally with highest-market tier and keep sustaining its technology. They may rely on existing brand power to fill the profit gap between entry-level customers and professionals. [1]. The log-run R&D projects' strategy for incumbents is repositioning their core business, which is digital camera production, with the above discussed method by adopting it to the altered marketplace[4].

Short-term and long-term strategies for low-end disruptive technologies

Incumbents should always have lower antennas at lower tiers. This should be an autonomous cross-functional team of engineers, marketing and salespeople, who have a responsibility of learning and identifying the needs of the low market tiers. Established companies' senior executive should assign team leader to create a discovery-driven plans and manage the team. The team should look at lower-market tier in digital camera industry and learn what customers want in another dimension. When they identified those needs and the team should prepare R&D for the new products in another dimension. When the above mentioned performance oversupply occurs, customers will be ready for another performance dimension and the incumbents can introduce the new product in another performance dimension developed by their R&D and disrupt themselves. This strategy can be done in the long - run.

However, it should have some short-run strategy to stop the decreasing pattern of the digital cameras' sales. There are two possible options. The first R&D strategy for incumbents in digital camera industry such as Nikon, Casio, Canon, etc. is the acquisition of new entrants, who are disrupting incumbents from the low-end by producing the phones with build-in cameras. The next R&D strategy for incumbents is the purchase of license or rights to produce the same product. Sony corporation and Panasonic undertaken this strategy, but they couldn't have lower price than the new entrants such as Sharp Corporation. Those low-end disruptive companies managed how to keep their costs low and assign the lower market price than incumbents. Therefore, the acquisition may be a right short-run decision, because in this case incumbents will have a control over acquired companies.

Short-term and long-term strategies for high-end disruption

The last issue for the leaders of established companies in digital camera industry is managing the high-end disruption. In high-end disruptive innovation neither the market nor the performance are known.However, incumbents have high technical capabilities to create a new market, while new entrants have lower technical capabilities to create a new market. Contract R&D may be helpful strategy there, because contracting with the universities or consulting firms will give an extra capacity/skills without adding to headcount. In

addition, above created R&D team based on its discovery-driven planning should identify new markets in nonconsuming occasions, their needs and test the gathered market assumptions that could disrupt digital camera industry and smartphones. Once they discover that the particular market could be the potential new market that will need another performance or functionality, they team of engineers, marketing and salespeople jointly develop the new product for a new market in another performance dimension. It is the long-term strategy for managing high-end disruption.

However, incumbents losing their market share and should take an immediate actions. The rational short-term R&D strategy is Project Partnership with the companies operating at high-end disruptive innovation. The companies operating at high-end disruption as Apple Corporation and HTC smartphones and the digital camera is a constituting part of it. Although some smartphone producers managed how to improve the digital cameras of smartphones, the majority of them haven't still managed it. Instead of the quality of digital camera, they focus in other more important applications of smartphones. Therefore, if incumbents in digital camera industry such as Casio, Canon, Nikon, Kodak will form a project partnership with smartphone producers such as Apple and HTC, incumbents will improve the quality of digital cameras with an advanced technological features, while high-end disrupters will manage digital cameras as a part of a smartphone. In this case, incumbents in digital camera industry will have extra capacity/skills and mutual learning and in the future those established companies can disrupt themselves and retain/flourish their profits.

III. Findings and Conclusions

There are many cases when new entrants with disruptive technologies cause incumbents to fail. When this happens, the incumbents should identify the extendable core of a disruptive technology, evaluate their relative advantage and transform themselves in response to disruptive technologies. Firstly, the trends of the digital camera industry in 1980-2013 was discussed in order to identify the sources of existing or potential disruptions. Secondly, the discussed trends was analysed based on the Christensen's theory. We had found that sales of incumbents such as Kodak, Canon and Casio dramatically decreased in the last decade. The phones with built-in cameras was the low-end disruptive technology and was one cause of the incumbents' sales drop. The next reason of the sales drop of the established companies in digital camera industry was the invention of the smartphones. They created a new market and operated in another performance dimension, high-end disruption. Currently people prefer smartphones to digital cameras. After identifying these two disruptions, R&D strategies for sustaining, low-end disruptive and high-end disruptive innovations in the short-run and long run were offered. The suggestions written in Christensen's book "Innovator's Solution" to manage

disruptive technologies will be more effective, if the incumbents apply them to their current business in the long-run by carefully analyzing the phones with built-in cameras and smartphones' extendable cores.

References

1 Christensen C.M. and Raynor M.E. The innovators solution: Creating and sustaining successful growth / C.M. Christensen and M.E. Raynor. – Harvard Business Press, 2003. – 586 p.
2 Christensen C. The innovator's dilemma: when new technologies cause great firms to fail / C.M. Christensen. – Harvard Business Press, 1997. – 482 p.
3 Wessel M. and Christensen C.M. Surviving Disruption // Harvard Business Review. – 2012. – N 90(12). – P. 56-64
4 Gilbert C., Eyring M., and Foster R.N. Two Routes to Resilience // Harvard Business Review. – 2012. – N90 (12). – P. 66-78
5 Definition of digital camera at the Free Dictionary // Farlex Inc., 2013. – 753 p..
6 Tatsuno K. Current trends in digital cameras and camera-phones // Quarterly review. – 2006. – N18. – P. 35-44
7 O'Brien K. Smartphone Sales Taking Toll on GPS Devices // New York Times. – 2010. – N14. – P. 2010
8 Davies A. Bridge cameras a growing market says Canon and Nikon [Электр. ресурс]. – 2012. – URL: https://www.techradar.com/news/photogra (дата обращения: 12.12.2015)
9 Pogue D. Smile, and Say 'Android' / New York Times. – 2012. – N 19. – P. B1.
10 Nokia Lumia. 1020 preview: Take two // GSMArena, 2013. – 85 p.
11 Daniel P. Howley L.S.W. Nokia Lumia 1020 vs. Galaxy S4 Zoom: The Best Camera Phone Is…// LAPTOP magazine. – 2013. – N 14. – P. 34-39
12 News T. Digital camera sales slump as people use smartphones to take snaps // The Telegraph. – 2012. – N29. – P. 5
13 Reid A. Consumer DSLRs "dead in 5 years" [Электрон. ресурс]. – 2013. – URL: https://www.eoshd.com/2013/10/consumer-dslrs-dead-5-years (дата обращения: 15.12.2015)

Р. Л. Аман[1], А.Т. Кусниева[1]
[1]Сулейман Демирел атындағы университет, Қаскелен, Қазақстан

КЛЭЙТОН КРИСТИАНСОННЫҢ ИННОВАТОРЛЫҚ ДИЛЕММАСЫНЫҢ ТЕОРИЯСЫ МЕН САНДЫҚ КАМЕРАЛАР НАРЫҒЫНДАҒЫ ИННОВАТОРЛЫҚ ШЕШІМДЕРДІ ҚОЛДАНУ

Аңдатпа: Он компанияның ішінде тек біреуі ғана бірнеше жыл бойы акционерлердің орташа көрсеткіштен жоғары кірістің өсуін сақтап

қала алады. Компанияның негізгі бизнесі қалыптасқаннан кейін, жаңа платформалардың дамуы өз алдында үлкен тәуекелге әкеледі: яғни, көптеген компаниялар белгілі бір даму шыңына жеткен соң ары қарай өсу жолын білмегендіктен, нәтижесінде, даму жолының бұрыс жолын таңдайды. Компанияны кеңейту бойынша қорытынды шешімдерді басшылық қабылдайтын болғандықтан, өсу және инновацияларға байланысты қателіктер де басшылардың жауапкершілігінде.

Бұл мақалада Кристиансон теориясы сандық камера нарығында қолданылады. мақала сандық камера нарығының тарихы мен қазіргі заманғы үрдістерге басталады. Одан әрі басқарудың төменгі және жоғары деңгейдегі бар Компания жаңа ойыншыларды және нарықтық сегменттері, сондай-ақ басқарудың жоғары және төмен деңгейлеріндегі ықтимал сәтсіздіктері анықталған.

Қорытындысында Кристиансон инноваторлық дилеммасына негізделген қорытындылар және бұл теорины сандық камералар нарығында қолдану жолдары берілген.

Кілт сөздер: инновацияларды басқару, дилемма, зиянкестік инновациялар, өнімділіктің қиылысу траекториялары, инноватор шешімдері, зиянкестік технологиялар.

Р. Л. Аман[1], А.Т. Кусниева[1]

[1]Университет им.Сулеймана Демиреля, Қаскелен, Казахстан

ПРИМЕНЕНИЕ ТЕОРИИ ИННОВАТОРСКОЙ ДИЛЕММЫ КЛЭЙТОНА КРИСТИАНСОНА И ИННОВАТОРСКИЕ РЕШЕНИЯ НА ПРИМЕРЕ РЫНКА ЦИФРОВЫХ КАМЕР

Аннотация: Только одна из десяти компаний способна сохранить рост, приводящий к доходности акционеров выше среднего в течение нескольких лет подряд. После того, как основной бизнес компании созрел, развитие новых платформ для роста влечет за собой большой риск: проще говоря, большинство компаний просто не знают, как расти после определенного момента и, в результате, выбирают неправильный путь развития, что хуже, чем отсутствие роста вообще. Поскольку окончательные решения о разширении компании принимаются руководителями, ответственность за ошибки в принятии решений, касающихся роста и инноваций ложится на руководителей компании.

В данной статье теория Кристиансона применена к рынку цифровых камер. Статья начинается с истории рынка цифровых камер и современных тенденций. Далее определены существеющие компании, новые игроки и сегменты рынка, а также возможные сбои на низших и высших уровнях управления.

В заключении приведены выводы, основанные на инноваторской дилемме Кристиансона и возможные пути применения данной теории на рынке цифровых камер.

Ключевые слова: управление инновациями, дилемма инноваторов, подрывные инновации, пересекающиеся траектории производительности, решение инноватора, подрывные технологии.