The Constantly Innovative Tesco

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Abstract

Innovation is one of the widely used terms nowadays. It generally refers to renewing and changing processes, creating more effective ones, implementing new ideas and willingness to innovate. The main objective of this paper is to introduce the importance and categories of innovation relying on papers published at home as well as abroad. Further objective of this paper and research is to introduce the latest innovations of Tesco (self-checkout machines, home delivery service) on the Slovak retail market. Detailed description about self-checkout systems is given as well as customer concerns are also discussed. The paper can be a forefront of primary research conducted in the future.

Key words: innovation, Tesco, self-checkout machines, home delivery service

JEL Classification: O 31 - Innovation and Invention: Processes and Incentives

1 Introduction

Innovation is a widely used term nowadays. Changes as a result of innovation process can have significant impact on the economic growth of the country. Innovation can be understood as a launch of a new product or service as well as improvement of service and production process. The main objective of the paper is to introduce the willingness of the Slovak retail industry to innovate. The introduction of new solutions in the retail industry usually changes the consumer behaviour. Companies increase their cost-efficieny, while consumers benefit from innovation by appreciating comfort aspects of the novelty. The study relying on papers published at home and abroad alike is trying to explain the term „innovation“, while focuses on introduction of the Slovak retail market, emphasizing the innovation practices of Tesco, the British retailer in market leader position on the Slovak retail market. The study is a part of a Vega project 1/0381/13 at the Faculty of Economics, J.Selye University „Evaluation of innovation potential of business networks at early stage of their operation”

2 References and Research Methods

According to Gregor individuals started to use „innovation“ for the appearance of the new phenomena. (Gregor,Mičieta 2010). Naming the phenomena has led to several viewpoints and definitions. The term „innovation“ has become a widely used expression by European researchers to name development programmes and calls for proposals.

Innovation as a term derives from the Latin novo, novaties (new) and appeared as a technical terminology first. The Contemporary Business English Dictionary defines innovation as an idea or process.

The definitions above show, that we speak about novelty or reformation, that is vital part of the human life. Numerous authors as E.M. Rogers were trying to explain the term. According to Rogers the term innovation is used for an idea, process or an object that is considered to be new. (Rogers, 2003)

Innovation usually comes from big ideas, by selection of one or two new solutions. An invention phase is the discovery or creation of new things and processes, which is the last stage of the innovation process.

The second phase is implementation, also called diffusion, when ideas or products are brought to the consumer or end users, who will reject or accept it.(Lengyel, Rechnitzer, 2004)
Any kind of process that creates advantage for the producer among the competitors can be accepted as innovation. (Molnár, Dupaľ 2008). When innovation step is a part of the company strategy, it should focus on the product development or practice innovative approach to problem solution. Innovation should represent an added value both for the consumer and the company. (Chromjaková, Rajnoha 2009)

Based on another approach, innovation is the implementation of human ideas in the production process and social relations. Innovation is an introduction of change, that is new for the society, company or a group. In conclusion we can say, that innovation is the combination of new methods with the existing ones to create something unique. Innovation can be applied for products, technologies, production factors, professional qualification of workforce or the organizational structure of the company. The above mentioned changes can be quantitative or qualitative with positive or negative economic impacts. Social benefit of the change will not guarantee the economic efficiency of it. (Hrašková, 2008)

Maier has similar attitude to Hrašková about innovation. According to Maier, innovation is development, introduction and implementation of new ideas, processes, products and methods, that will benefit the companies, groups and consumers. (Maier, 2011)
Innovation is more than an idea and cannot be confused with the creativity. (Muška, 2009)
According to Rogers the rate of adoption of innovations is explained by five attributes.

- Relative advantage is a degree to which an innovation is perceived of being better than the idea it supersedes. The social status aspects and cost of the innovations are elements of the relative advantage. The research declares coherence between the relative advantage and the spread of innovation. More advantageous the new solution is, more demand for it is generated by adopters.
- Compatibility will show to which degree an innovation is perceived consistent with the existing and past values of adopters. If an innovation is compatible or similar to already applied method, the rate of adoption of the innovation will increase.
- Complexity is defined as the degree to which an innovation is declared to be difficult or complicated to understand and use. More complex the innovation is, slower will be the diffusion process.

- Trialability is positively correlated with the rate of adoption. More an innovation can be tried, faster will be the process of adoption.
- Observability is also positively correlated with the rate of adoption.

Rogers emphasises, that the categories mentioned above should be examined from the adopters' perspective. Getting an innovation adopted, even it is proved cost-efficient by specialists is difficult in case the adopters cannot identify themselves with the idea. Roger's Innovation Adoption Curve classifies adopters on their level of readiness to accept new ideas.

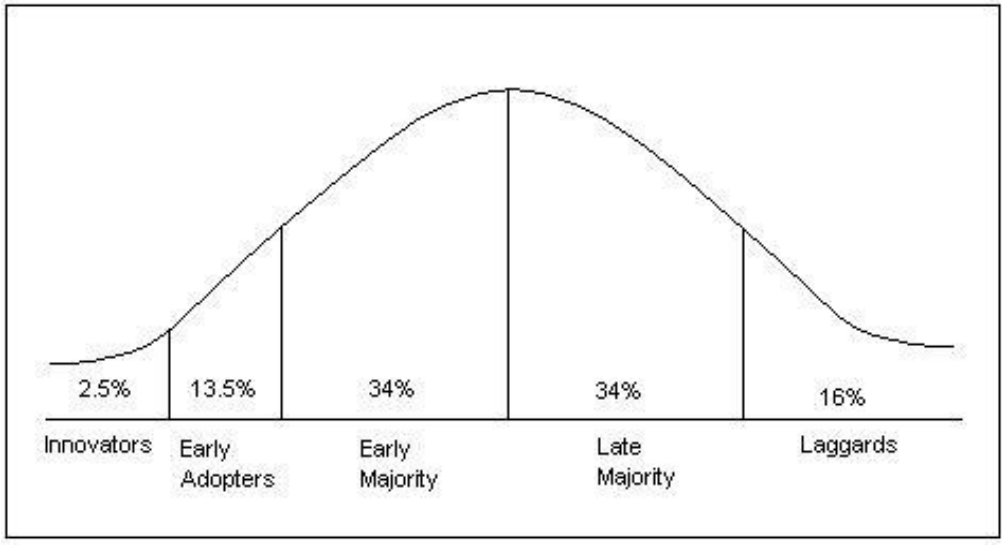

Fig. 1 Adopters on their level of readiness to accept new ideas
Source: Rogers, 2003

Innovations are not adopted by all individuals at the same time. Instead, they adopt it in a time sequence and can be classified into adopters categories. Adopters belonging to the same category can be characterized with similar features, while we can recognize differences between adopters of different groups.

Innovations are immediately adopted by 2.5% of adopters. Rogers calls them „Innovators". They are venturesome, open to new ideas and are prepared to cope with a certain level of uncertainty as well as show greater propensity to take risks. The members of the group have excellent interpersonal networks. Innovators are educated with relevant finances to influence the innovation process. They are motivated by the idea to introduce change in their reference group.
The next 13,5% of adopters are „Early Adopters". They are popular and educated, expressing their own opinions as well as they have influence on the spread of an innovation.

The „Early Majority" group is formed by 34% of the adopters. They influence less with their opinion compared to „Early Adopters". Adoption is a slower process among the members of the group, they have smaller propensity to take risks and need recommendation to adopt an innovation.

The next 34% is represented by the „Late Majority". They will adopt innovation because it is financially advantageous for them. The members of this group come from lower socio-economic status and approach innovations sceptically compared to the mentioned adopter groups.
Laggards, represented by 16% of the adopters are the last in a social system to adopt an innovation. They come from low socio-economics status, their resources are limited. The members of this group are conservative and find it difficult to adopt an innovation. (Rogers, 2003)

Innovation is the catalyst of developed economies. The innovation ability of a company is influenced by several factors. Skilled workforce and favourable business environment are those from the most influental factors. The basic of innovation is a knowledge gathered through research and development process conducted by companies. Considering the above mentioned facts, the state should support the R&D activity of companies. (Minerva, 2005)
Secondary sources are used to introduce the innovation activity of hypermarkets on the Slovak market.

3 Survey Results

3.1 Retailing in Slovakia

Hypermarket retailing is one of the modern retailing concepts that is widely accepted by most consumers, especially in urban and suburban areas. The wide variety of product choices and brands has become the main attraction for consumers to purchase basic necessities and household products from hypermarkets (Hassan - Rahman, 2012)

Retail chains in Slovakia appeared later than in other countries of V4. The first retailer entering the Slovak market was Tesco in 1996 followed by an expansion boom of retailers. Tesco entered the Slovak market through the acquisition of four K-Mart stores. A year before this acquisition the American K-Mart acquired the loss making Prior stores. The main reason of decline can be explained by town centre location of department stores as the high rental costs in this location made them enable to compete with retail outlets in out-of town location. Lack of parking space in town centre location was a further disadvantage of stores. In conclusion we can say, that the first Tesco stores appeared in town centers and later the company had developed a chain of its stores in different parts of the country. Nowadays Tesco has 56 hypermarkets, 33 supermarkets, 19 expres-stores and 5 department stores throughout Slovakia. Tesco is not only a competitor to Slovak retail chains, but it inspires them for changes and innovation.

Kaufland entered the Slovak retail market in 2000. The German hypermarket chain is the market leader in Germany, operating 700 stores in Germany, Czech Republic, Slovakia, Bulgaria, Poland, Croatia and Romania. The first Kaufland store in Slovakia was opened in Poprad, in 2000. The planned and not too quick expansion resulted in growing number of stores. There were 29 Kaufland stores in 2007 and their number has increased to 44 since that time. The retail chain offers products of different quality and brands in 3000 and 12 000 m^2 stores.

The latest to appear in Slovakia was the Dutch retail chain, Hypernova. The first store was opened in 2001, a year after Kaufland entered the market. Hypernova had 25 stores in 2007. The

Slovak Hypernova chain belongs to Ahold Retail Slovakia, established in 2001, when the company operated 22 hypermarkets and 3 supermarkets under the „Albert" logo. These retail chains have quickly spread in Slovakia. Their success is proved by statistical data from 2007, when more than 22 million customers were served by these retailers. Hypernova is present in all the counties of Slovakia, serving middle-class customers. There were 23 hypermarkets and 3 supermarkets in the year of 2011.

The French Carrefour entered the Slovak market in 2000, opening its first shop in Bratislava with a slogan: „This is cheaper!" The same year November their second shop, Carrefour Pólus was opened, followed by stores in Kassa and Zsolna. The expansion of the company suddenly stopped and the number of their shops has not increased since 2001. In 2005 representatives of the company announced to leave the Slovak market due to declining market share. Tesco Stores had an interest to buy the stores of the French company, but it was prohibited by the Office for Competition to protect the market from the dominance of Tesco stores. (Seres, Mura, 2012)
Further chapter of this study will describe the innovation activites of Tesco on the Slovak retail market.

3.2 Tesco, the innovator

Rapid advances in technology are significantly influencing how retailers deliver their functions and stay competitive in the globalized markets. To reduce cost, increase value, and improve customer satisfaction, retailers are adopting a variety of self-service technologies. (Lee et al., 2009; Bitner et al., 2002)
The checkout station is the only place where consumers are being fully served in hypermarkets. (Rajamma et al, 2009) The hypermarket cashier can handle between 500 to 1,000 items and fill more than 80 bags per hour. (Sluchak, 1991)

Self-checkout (SACAT) machines operate with a touchscreen display, where the customer can control the shopping experience and animated instructions help the customer what steps to follow. The first step is choosing the language (Slovak or English) we would like to use to communicate with the self-checkout machine. The customer will scan the barcodes of the chosen items and will place the items into a bagging area. After scanning the barcode the price of the item is confirmed and added to the amount payable. If we buy items such as fruits and vegetables we should choose the appropriate icon on the touchscreen. The same steps are followed with bakery products. After scanning the barcodes of all the items we should choose the method of payment. Payment can be conducted by various methods: cash, credit card or debit card. If the chosen method of payment is cash, the coins and banknotes are inserted into a machine signalled with green light. The machine will return the change. In case of paying by card, after inserting the PIN code, the payable sum is deducted from our account. The customer simply pays the desired amount receiving a bill about payment and can take away the purchased items. The benefit of self-checkout machines is in reducing checkout time for customers as well as super-and hypermarkets become advantageous places to do shopping in. The introduction of self-checkout machines can decrease the number of employees as 1-2 assistants will be enough to help the customers. As the company can save on staff expenses, they promise decreasing prices of their products. The question is whether reduction in staff expenses is enough to decrease the prices of products? Most of the competitors attack the retail chain for the reason mentioned above. (Švec, 2013)

Tesco started a pilot project in March 2010 in Slovakia and the company is planning expansion of the project in Central Europe. The introduction of Tesco Extra stores is a part of the pilot project as well as introduction of self-checkout machines in Ligetfalu Tesco store. The self-checkout machines firstly appeared in British Tesco stores, followed by the pilot project in Slovakia. If the project proves to be successful in Ligetfalu, the company is planning to introduce the innovation in further countries of Central Europe. Pavol Civáň, the CEO of Tesco Extra in Ligetfalu believes in the success of the novelty introduced in Ligetfalu store. (Tesco: Prvýkrát na, 2010)

As a part of the pilot project 8 self-checkout machines were introduced in Ligetfalu Tesco Extra store, while customers still have possibility to use the traditional checkout system as well. (Novinka v bratislavskom, 2010)

The German Kaufland store introduced 4 self-checkout machines in Prague in 2011. Andrej Ďurička, the CEO of Terno Slovakia says, that slow expansion of self-checkout machines can be explained by lack of consumer interest. Tesco is planning to launch 180 self-checkout machines by the end of 2011. (Augustín, 2013)

From a review of the literature, Dean (2008) determined that the success of self-service technology is due to two factors: reliability and advantage (Meuter et al., 2000). Factors that influence the adoption and usage of self-service technology are personal capacity, perceived risk, relative advantage, and preference for personal contact. (Walker and Johnson, 2006)

The consumer satisfaction with self-checkout systems is more than satisfactory, announced Tomáš Ferenčák, the spokesperson of Tesco Slovakia. He also emphasized that the company had introduced 370 self-checkout machines until 2013 October and still has a monopol situation on the market with this innovation. Ľubomír Drahovský, the analyst of Terno research institution pointed out, that increasing interest in the new innovation does not motivate the competitor retail chains to follow the trend on the Slovak market. This announcement was backed by Martina Kovács, the CEO of Billa stores in Slovakia. The popularity of self-checkout machines is increasing in the neighbouring Czech Republic. Globus, Albert and Kaufland is considering the introduction of this new facility in stores. Kaufland in Slovakia has slower reaction to innovations, they do not plan to introduce the self-checkout machines in their stores. The new technology enables smaller purchases and gained popularity among 25 – 30 years old customers. The advantages of self-checkout machines are also enjoyed by older generation. Drahovský pointed out, that older generation of customers also benefit from the introduction of the system. Retailers find self-checkout machines more effective than the classical model as they offer cost-effective solution in distribution of work for staff. Considering the mentioned effectivity both from customer as well as the retailer perspective the self-checkout machines have become successful in the majority of US stores. High price of the technology prevents its expansion on the Slovak market. As Ľubomír Drahovský said, the Slovak market is small and the new technology expensive to invest in and would increase the prices of products. Increasing prices would result in decreasing number of customers. The expansion of self-checkout machines is hampered both by retailers and customers. The hypothesis, that the self-checkout machines have increased fears about cheating (customers do not scan the products or scan the cheaper product ex. bakery, fruit etc.) is denied by Tesco stores. The spokesman of Tesco Slovakia, Tomáš Ferenčák emphasized that the self-checkout machines have their own security system, which

identifies the exact weight of items. A self-checkout assistant and a security guard will minimize the possibility of theft. (Blehová, 2013)

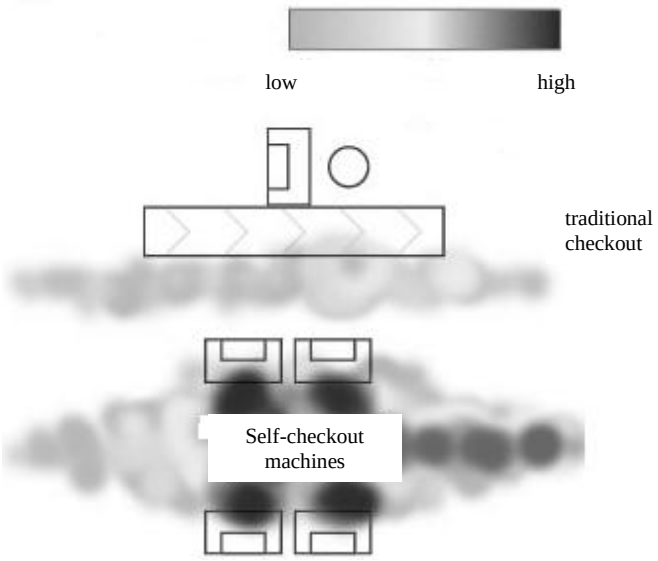

Fig. 2 Level of frustration at self-checkout machines
Source: Fridrich: Sú samoobslužné pokladne [online]

The figure above shows the results of secondary research about the level of customer frustration at self-checkout machines. The frustration at traditional checkouts shows low or average frustration, while self-checkout machines increase the frustration of customer.
The novelty introduced by Tesco in Bratislava on 3rd.October 2012 enables the home delivery service for customers. The customer orders grocery goods via internet, the items are delivered by the company. (official website of Tesco)

Beside the capital there are eight towns (Nyitra, Kassa, Nagyszombat, Eperjes, Galánta, Selye, Malacka, Galgóc) where customers can use home delivery service of the company. Customer orders can be submitted each day of the week between 8.00 – 22.00. Payment is realized online or after delivery. Payment in cash is not permitted for safety reasons. The delivery service costs 2,49 -3,99 € and depends on delivery terms required by the customer.

Online services are offered also by Carrefour in Slovakia. Home delivery service is not available for the customers, they can get the purchased items in the shop. The service was introduced in Ligetfalu first, and will be followed by their store in Bratislava Polus Center. The items can be withdrawn from the store two hours after online purchase. (Introduced online shopping, 2012)

3.3 The popularity of self-checkout machines among customers in Tesco Komárno

Our primary research was conducted on 5th. February 2014 by Szűcs Csilla, student of J. Selye University in Komárno. The questionnaire survey focused on customer opinion about self-service checkout systems and their usage in Tesco hypermarket Komárno. We used the method of random sampling, where 120 customers filled the questionnaire. The results were analyzed with SPSS programme.

72.5% of all respondents were women and 27.5% were men. Respondents under the age of 15 are not included in the sample, while different age groups (15-29, 30-39, 40-49, 50-59 years, over 60) are represented in 20-20% in our sample. Majority of the respondents, 68.4% had secondary school degree, university degree was obtained by 24.2% and the rest of our respondents, 7.5% had basic education. 62.5% of our respondents live in village, while 37.5% live in town. More than 40% of the respondents have income of lower than 400 EUR/month, 45% of respondents declared an income of 400 – 900 EUR/month. 1/3 of our respondents do shopping in Tesco hypermarket once or twice a week, while the rest 1/3 of the respondents do shopping once a month. Majority of the respondents do their shopping in the afternoon or in the evening.

The majority of our respondents regardless to their sex have heard about the self-checkout machines and a bit more than 80% of them use them regularly. 86% of respondents found the system reliable and majority of them use the service when they do smaller shopping. The new system makes shopping easier and faster. Approximately half of the respondents had rather negative opinion about this innovation of Tesco. Their negative opinion was explained by disappearance of workplaces due to innovation.

During our research we have formulated three hypotheses:
H1: Self-checkout machines are never used by those over the age of 60.
H2: Those with basic school degree have negative opinion about self-checkout machines.
H3: Urban population is more familiar with the self-checkout machines.

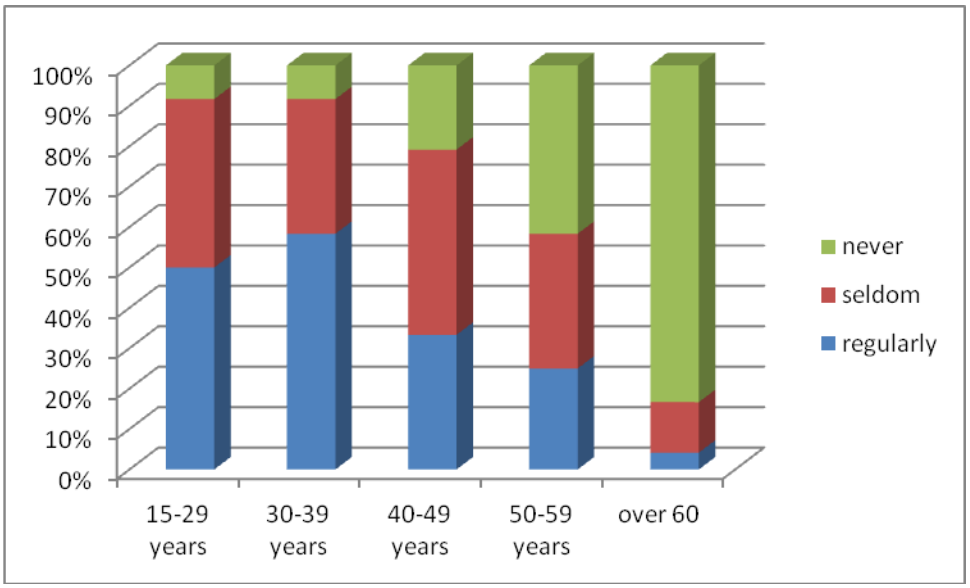

Fig. 3 Self-checkout machine usage regularity
Source: own graph

The figure shows that the self-checkout machines are mainly used by the age group of 30-39. As older the customers get as rarely they use the innovative idea of Tesco. To analyse the correlation between the chosen variables we used the Pearson's chi-squared test. The observed indicator value is 46,864 which indicator at 0,00 two-tailed significance level exceeds the theoretical value, so the significance level is lower than the chosen 0,05 level. This proves a significant correlation

between the two variables. On the basis of Cramer V (0, 442) and the contingency coefficient (0,530) we can identify a relatively strong correlation, so our first hypothesis is accepted.

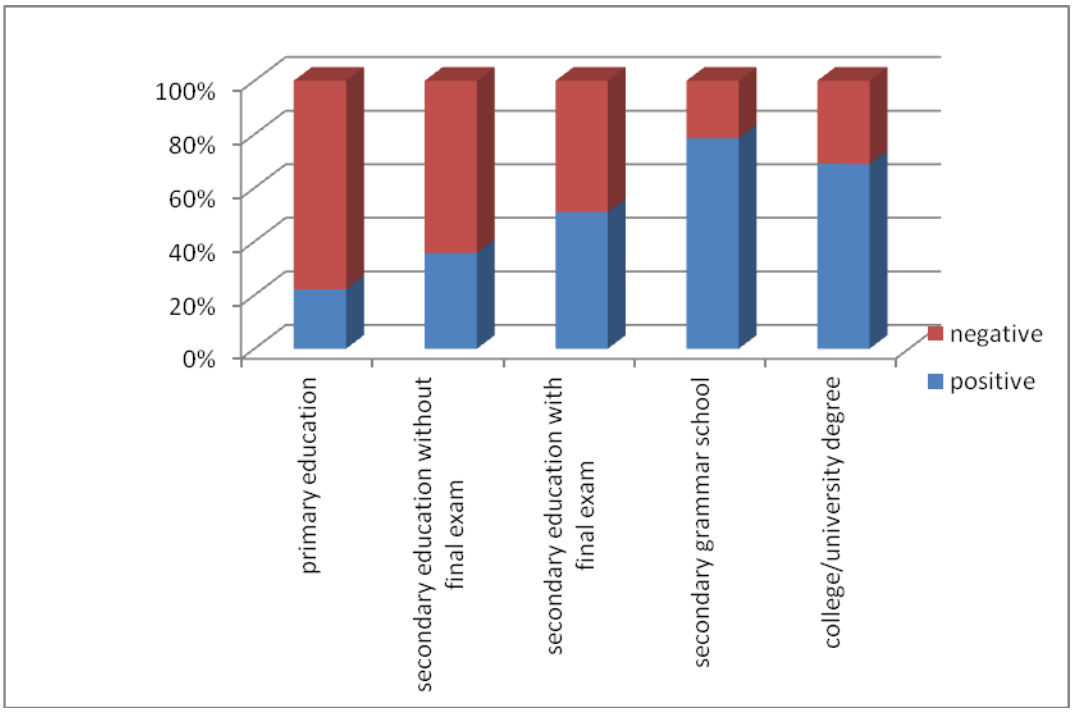

Fig. 4 Educational attainment of respondents and their opinion about self-checkout machines
Source: own graph

The figure shows, higher the educational attainment of the respondents more positive is their opinion about the self-checkout machines. Majority of our respondents have positive opinion about the reliability of the system and found the service fast. Negative experience respondents have with the impersonal form of service, loss of workplaces and needed assistance of shop assistants while buying alcohol. If we examine the relation between the educational attainment and the respondents' opinion we can determine the chi square value at 11,767, which exceeds the threshold value at two-tailed significance level. The significance level (0,019) is lower than the chosen value of 0,05, so the variables significantly correlate with each other. The value of Cramer V stands at 0,314, which proves not too strong correlation between the variables. Our second hypothesis proved to be true.

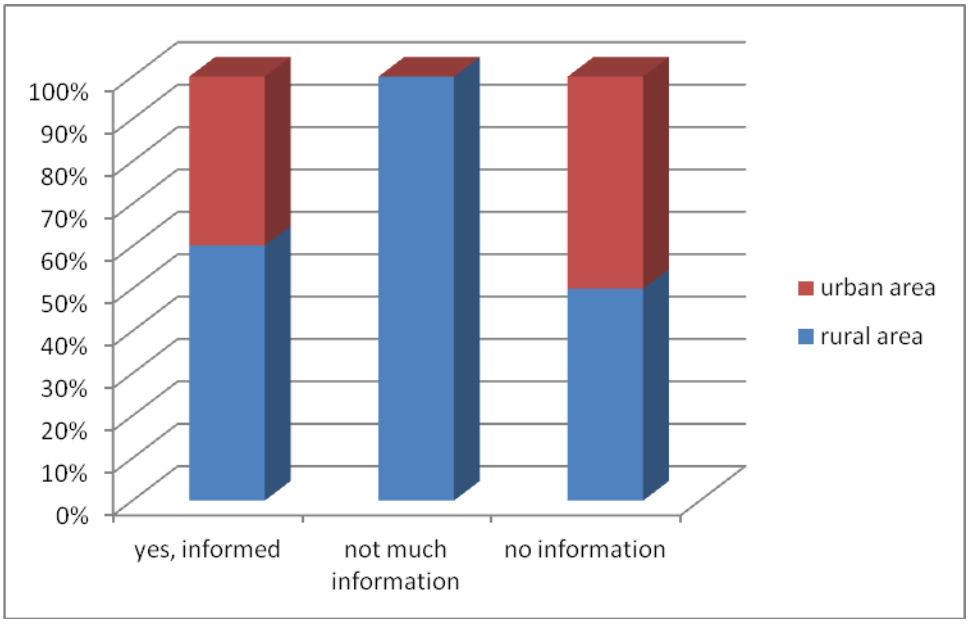

Fig. 5 How respondents with different residence are informed about self-checkout machines
Source: own graph

The graph shows that residents of rural areas are more informed about self-checkout systems than the urban population. If we examine the relation between the residence and information respondents have about self-checkout machines, we can determine the chi square value at 7,874 , which exceeds the theoretical value when examined at two-tailed significance level. We can prove, that the 0,02 significance level is lower than the chosen 0,05 value that reflects relation between the variants, which relation is weak based on the value of Cramer V indicator. The Cramer's V stands at 0,256. Our third hypothesis can be rejected.

4 Conclusions

The study deals with the importance of innovation on the retail market. The current economic environment, increasing competition and the customer desire for convenient forms of shopping inspired the hypermarket chains to introduce innovations that make the customers' shopping experience more and more convenient. The research made on the Slovak market proves Tesco to be the biggest innovator among the retailers. Our study provides information about two latest innovations of Tesco: self-checkout machines and home delivery service. Respondents seem to be open about new innovations and had rather positive opinion about self-checkout machines. They found the method of payment quick, reliable and funny. The payment process is quick and queuing is avoided. As negative experience respondents mentioned the impersonal service, disappearing workplaces and lack of communication with shop assistants as well as difficulties in case of gift vouchers. Further fears were expressed regarding the possible faults of the system which can be an obstacle to complete the shopping.

References

AUGUSTÍN, R. Kaufland testuje samoobslužné pokladne. [online] [cit. 2013-10-25] Available on the Internet: http://retazce.wordpress.com/2011/09/14/kaufland-testuje-samoobsluzne-pokladne/

BITNER, M.J., OSTROM, A. L., MEUTER, M. L., 2002. Implementing successful self-service technologies. In: Academy of Management Executive Volume 16, Number 4, pp. 96–109.

BLEHOVÁ, S. Nemáte čas stáť dlho v rade? Siahnite po samoobslužnej pokladni. [online] [cit. 2013-10-25] Available on the Internet: http://aktualne.atlas.sk/nemate-cas-stat-dlho-v-rade-siahnite-po-samoobsluznej-pokladni/ekonomika/trendy/

DEAN, D. H. 2008. Shopper age and the use of self-service technologies. In: Managing Service Quality, Volume 18, Number 3, pp. 225-238.

FIRDRICH, R. Sú samoobslužné pokladne použiteľné? [online] [cit. 2013-10-28] Available on the Internet: http://content.fczbkk.com/su-samoobsluzne-pokladne-pouzitelne/

GREGOR, M. – MIČIETA, B. 2010. Produktivita inovácie. Žilina: Slovenské centrum produktivity Žilina, 320 p.

HASSAN, H. - RAHMAN, M. S. 2012. Consumer Preference on Hypermarket Brand Extension Product. In: Australian Journal of Basic and Applied Sciences, Volume 6, Number 9, pp. 178-182.

HRAŠKOVÁ, D. 2008. Úloha inovácií v rozvoji organizácie In: Medzinárodná vedecká konferencia globalizácia a jej sociálno-ekonomické dôsledky´08. [online] [cit. 2011-02-23] Available on the Internet: http://www.logistickymonitor.sk/en/images/prispevky/uloha-inovacii.pdf

CHROMJAKOVÁ, F. – RAJNOHA, R. 2009. Ekonomika inovácie ako súčasť zvyšovania výkonnosti firmy [online] [cit. 2011-02-22] Available on the Internet: http://www.cjournal.cz/files/7.pdf

Internetes vásárlást vezetett be a Carrefour. 2012. [online] [cit. 2013-09-25] Available on the Internet: http://www.bumm.sk/71900/internetes-vasarlast-vezetett-be-a-carrefour.html

LEE, H.J. - FAIRHURST, A. E., LEE, M. Y. 2009. The importance of self-service kiosks in developing consumers' retail patronage intentions. In: Managing Service Quality, Volume 19, Number 6, pp. 687–701.

LENGYEL, I., RECHNITZER, J. 2004. Regionális gazdaságtan. Budapest-Pécs: Dialóg Campus Kiadó, pp. 249-268

MAIER, W. G. – FREY, D. A KOL. 2011. Innovation. [online] [cit. 2011-04-10] Available on the Internet: http://www.wissenschaftonline.de/abo/lexikon/psycho/7202

MEUTER, M. - OSTROM, A. - ROUNDTREE, R. - BITNER, M. 2000. Self-service technologies: Understanding customer satisfaction with technology-based service encounters. In: Journal of Marketing, Volume 64, pp. 50-64.

MINERVA. 2011. Plán pre vedu, výskum a inovácie. [online] [cit. 2011-04-18] Available on the Internet: www.iminerva.sk/.../ap/.../veda,%20vyskum%20a%20inovacie.doc

MOLNÁR, P. – DUPAĽ, A. 2008. Manažment inovácií podniku (manažment výrobkových inovácií podniku) Bratislava: EKONÓM, 170 p.

MUŠKA, M. – KRÁLIK, J. – HÁLEK, V. 2009. Otevřená inovace. Bratislava: Donau media, 160 p.

Nová služba Tesco Potraviny Domov uľahčí nakupovanie ľuďom. 2012. [online] [cit. 2013-10-28] Available on the Internet: http://www.webnoviny.sk/slovensko/nova-sluzba-tesco-potraviny-domov-ula/551907-clanok.html

Novinka v bratislavskom Tescu: Takto funguje samoobslužná pokladnica. 2010. [online] [cit. 2013-10-25] Available on the Internet: http://www.cas.sk/clanok/158517/novinka-v-bratislavskom-tescu-takto-funguje-samoobsluzna-pokladnica.html

RAJAMMA, R. K. - PASWAN, A. K. - HOSSAIN, M. M. 2009. Why do shoppers abandon shopping cart? Perceived waiting time, risk, and transaction inconvenience. In: Journal of Product & Brand Management, Volume 18, Number 3, pp. 188-197.

ROGERS, E. M. 2003. Diffusion of innovations. New York: Free Press,

SERES, H. E. – MURA, L. 2012. Új trendek a szlovák kiskereskedelemben. Bučovice: Martin Stríž Publishing, 136 p.

SLUCHAK, T. J. 1991. Ergonomic challenges in supermarket front-end workstations. In: Proceedings of the Human Factors Society 35th Annual Meeting, pp. 862-866.

ŠVEC, K. 2012. Samoobslužné pokladne. [online] [cit. 2013-10-25] Available on the Internet: http://peterstetka.wordpress.com/2012/12/07/samoobsluzne-pokladne/

TESCO: Prvýkrát na Slovensku samoobslužné pokladne! Vieme, ako fungujú. 2010. [online] [cit. 2013-10-25] Available on the Internet: < http://tvnoviny.sk/spravy/ekonomika/tesco-v-bratislave-funguju-prvykrat-na-slovensku-samoobsluzne-pokladne.html>

WALKER, R. - JOHNSON, L. 2006. Why consumers use and do not use technology-enabled services. In: Journal of Services Marketing, Volume 20, Number 2, pp. 125-135.