

Development of Information Systems in the Insurance Sector According to a Non-linear Approach: Perspectives of Generation Z Representatives

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Abstract

A few decades ago, insurance policies were manually processed, with prices calculated using calculators, and customer service conducted at home. Currently, insurers utilize modern IT systems, and the insurance industry is thriving. The latest technological advancements, such as telematics (for assessing driving risk), artificial intelligence (for automatic insurance claim evaluation), and machine learning (for creating insurance products safeguarding businesses from weather anomalies), are employed. Generation Z individuals are entering the job market, including the insurance sector. Their needs regarding various system uses, extensive tech experience, self-awareness, and responsible data protection, must be considered. This article offers a brief overview and potential future directions for IT systems in insurance, tailored to Generation Z's needs.

Keywords: Insurance, Insurtech, Generation Z, insurance systems

1. Introduction

The insurance industry plays a significant role in the country's economy. In addition to transferring risk from businesses to insurance companies, it stimulates consumption and investment. It is worth noting that the insurance sector provides employment for many people. Insurance has undergone a historical evolution, changing its approach to serving end customers [2]. Within an insurance company, there are many roles, such as actuaries, claims adjusters, and underwriters. The most common and crucial role in the sector is that of the insurance agent. They often remain in direct contact with the client, serving as their first line of support. Currently, the insurance sector faces many challenges, not only in terms of climate change, geopolitical risk, or demographic changes. It is also important to consider possible technological solutions for the insurance market, but above all, from the perspective of the generation that will soon belong to the group of employees in insurance companies. Attention should also be paid to the approach of Generation Z to disclosing and processing personal data. This matters in the context of serving end customers in the insurance market.

In Poland, alongside banking, the insurance sector is considered mature and technologically advanced. However, despite this, the entire industry faces numerous challenges, undoubtedly influenced by individuals from Generation Z. As noted by Aksu, among the threats and challenges for the insurance industry, there are risks related to cybersecurity, the development of Insurtech, climate change and catastrophic events, and rising healthcare costs. Additionally, one of the significant challenges is the expectations and experiences of consumers (end customers) who demand fluid and personalized experiences. The current digital era requires insurers to adapt to this trend and to create technologies that meet their needs. In the context of Generation Z, there is a need to attract and retain talent because the demand for highly skilled professionals with digital skills is crucial [1]. These observations are confirmed by the Trend Map, which indicates that we

are currently experiencing a progressing aging society, the rise of Generation Z, and the presence of digital inequalities [6]. There is also a trend towards increasing data surveillance. Insurance systems have traditionally relied (and still rely) on a linear approach. This means that to determine the final price for an insurance policy, one had to go through each step sequentially. There was practically no way to indicate the price for a policy without first completing the client's full data, providing a detailed description of the insured object, and indicating the risks. Moving to the next step in the insurance system was (and still is) associated with the necessity of obtaining client data [5].

In contrast to this approach, a non-linear approach is distinguished, where there is flexibility in completing the insurance application. The timing of starting the calculation (i.e., whether it starts from client data or the insured object) and the order of completing the various information related to the insured object do not matter. Flexibility in the non-linear approach allows for a free exchange of opinions with the client, and also initially presents them with insurance options, coverage, and prices, and only after accepting the conditions, completes the client's data. Such an approach addresses the needs of Generation Z in using IT tools (flexibility, multitasking, and no need for sequential steps) and in protecting personal data by the end customer. Insurance companies that fulfill their main functions (product development, sales, claims), but at the same time develop their systems, determine the success and competitiveness of the insurance industry [3]. The mentioned non-linear approach to insurance service is also closely related to demographic transformations and the upcoming workforce, which will need to acquire new skill sets and be more flexible [4]. Departing from linear policy configuration will meet the need to operate in a changing and flexible environment. Systems for the insurance industry cannot rely on outdated approaches, suitable for previous generations. The existing and future IT architecture must enable the achievement of its business goals. One direction of development is hyperautomation, which also fits into the trend of non-linearity, multitasking, and openness to the needs of future generations [7].

2. Survey methodology

For the purposes of a business entity providing IT software solutions for the insurance industry, research in the form of focused group interviews (FGIs) was conducted. The interviews were carried out between May 12th and May 18th, 2023. The adopted assumptions and derived conclusions aimed at enhancing the usability and quality of the implemented application in a manner that best meets the needs of the target users. Evaluation of the system as a whole was to be performed by users with experience in insurance and policy sales, as well as potential future users, constituting a group of individuals from Generation Z. The authors of the study employed a degree of innovation and experimentation by inviting individuals who had previous experience with insurance applications. Conversely, the second group consisted of individuals who could only discuss their feelings, opinions, and ideas, as they had never worked with insurance applications before. Combining such groups – those based on experience and those based on feelings and theory – may represent an innovative approach to studying applications.

It was assumed that Generation Z would be represented by young individuals associated with the insurance industry (mainly from a theoretical perspective; experience gained through studies in specialized or related subjects; not having previously worked with insurance policy sales applications). As indicated, this group belongs to Generation Z, which refers to individuals born after 1995, characterized as the first generation to grow up in a fully digital society. In the context of the study, this group is characterized by having little to no experience in insurance policy sales.

In the conducted qualitative study, two groups participated. The first group (individuals experienced in insurance work) consisted of 10 people, aged 35-50, all of whom were from Poland. The second group consisted of 10 people aged 23-28, without experience in the insurance industry, all of whom were also from Poland. The selection of interview participants allowed for the observation of their behaviors and analysis of statements based on preferences and expectations rather than acquired knowledge and habits. For the purposes of the study, a research scenario consisting of 5 stages was prepared (Figure 1).

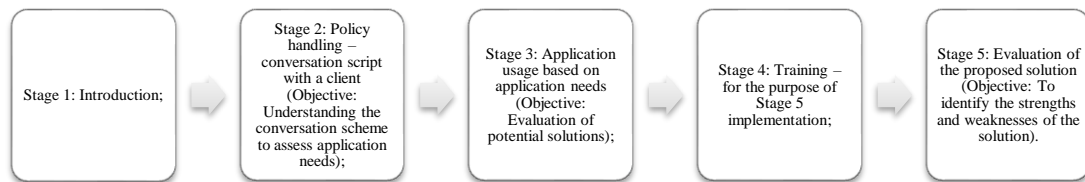


Fig. 1. The 5 stages of conducting the study.

The adopted scenario layout enabled a gradual recognition of needs and expectations. In Stage 5, projective methods were employed utilizing system visualizations, facilitating in-depth non-verbal analyses of "eye-hand and verbal opinion" and linking what was indicated in earlier statements with what participants ultimately selected at the final stage.

The subject of the poster within the presented material pertains to Stage 2, focusing on participants' conceptualization of the system for handling insurance clients. Subsequently, it will relate to Stage 3 concerning the evaluation of the proposed non-linear solution.

It is worth mentioning that the tested application was designed based on a web layout rather than a mobile one. Its non-linear structure allows for the input of necessary information in a random order, depending on the progress of the conversation with the client and the analysis of their insurance needs.

3. Survey results

The presented research results condensed the reported needs and expectations for a system serving the needs of clients seeking insurance offers. These are summarized in Table 1.

Table 1. The answers for Questions used in survey

Expectations and Needs	Statements and Conclusions
Ease of Use Ease of Access to Tools and Information Intuitiveness and Ease of Use as Key Factors	<i>"It has to be simple, everything should be visible." , "All functionalities should be visible, and we can deselect what we don't need." "Not too long checklists, so as not to get lost, organized by categories." "It should be easy to find, intuitive, without wasting time searching."</i>
Data Reading Capability Faster Policyholder Identification	<i>"A bar where you could click, so if we choose home insurance, it shows us the next steps." "Information about the insured, to be able to ask them fewer personal questions about their data."</i>
Need for Mentor Assistance Step-by-step Instructions, Hints Alternative solution in the form of a chat, which will quickly provide instructions (similar to AI)	<i>"Step-by-step guide on what to do"; "Patterns that would make it easier, for example, if we are selling a policy for a house, and we also want one for the garage, we wouldn't have to go back, but with two easy clicks, go to that part without worrying about losing what we previously selected." "(...) for each policy, there should be a star symbol, and when hovering over it, there would be a reminder, hinting at what we need or a brief summary of what we need." Instructions as a helpful solution, especially for new individuals, who could find the answer after entering, without necessarily having to call somewhere. "This often causes stress and a feeling of helplessness"; "that I'll come off as incompetent because I don't know this, but when there are these questions, then you can just ask further, and it's already easier." "Reminders of what to remember for a given insurance, as well as the ability to ask questions directly in the application or chat, where after entering the question, prompts would appear." There was also mention of a set of frequently asked questions along with answers, where one could find the question and answer more quickly than asking the question oneself. Chat GPT was also suggested as an alternative.</i>
Interface and layout facilitating work: -Tabs containing all steps, allowing seamless navigation without the need for backtracking -Use of highlights/colors Hints and reminders -Calendar function	<i>"Types of insurance, checklist – what the client wants with indicated prices, how much each item costs."; "Hints, for example in the form of cities and streets, which would automatically populate as a shortlist." [It was suggested that this would make things faster and easier]. "(...) it would also be useful to have a reminder function, for example, before the end of the insurance coverage period, it's worth contacting a specific person." "Integration of a calendar into the application, where individuals can make notes for scheduled meetings or phone calls." "A useful feature would be a task list system for the day, week, and month."</i>

The subsequent stage of the research allowed for the evaluation of the beta version of the application in a non-linear approach concerning the indicated expectations and needs. After familiarizing themselves with the application, participants were asked to assess the system regarding the usefulness of individual parts on a scale from 1 to 3, where one indicated very useful, 2 useful, and 3 not useful at all.

The application layout allowed for non-standard progression step by step within the actions that the user of the system must perform. An exemplary path included: presenting insurance options, scope and price, accepting terms, and filling in client data. The system's construction is based on a flexible layout of the page's appearance, with the possibility of arranging its appearance according to each user's preferences.

4. Summary

As the research results revealed, despite the initial declarations of the need for step-based actions, proposing a non-linear system layout was met with interest and approval. Participants' statements included assertions regarding the need to "organize it according to their own layout." Interestingly, greater attention was paid to the aspect of the necessity of providing "help" for faster response and a sense of security. There were indications of the need for assistance through instructions contained within the system, attached documents, hints, or chats, which could serve as alternative solutions. Attention was also drawn to the necessity of having a calendar and reminders (as an essential element).

It should be noted that the proposed application was generally rated very well. Research participants appreciated the idea, the use of modern elements, and the ability to work without prior collection of (sensitive) data from the client.

It is worth noting that just a few years ago, emphasis was placed on creating websites and internet applications to be accessible to people with various needs. In this regard, standards such as WCAG 2.1 and the ISO/IEC 40500. As demonstrated by the conducted research, the pursuit of social inclusion and consideration of diversity remains one of the priorities in the development of IT systems. Current and potential future users are attentive to these aspects.

This poster serves as an introduction to further planned research. A more in-depth analysis of the acquired research material is planned, along with the publication of an article describing these studies. Additionally, the second stage of work involves evaluating the completed IT system. Eye trackers and heat maps are also planned to be utilized to confirm whether visual observations will be corroborated in the actual use of the system.

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