



Aalen University

INSTITUTE FOR CONVERSATIONAL BUSINESS

Voicebot Study 2022



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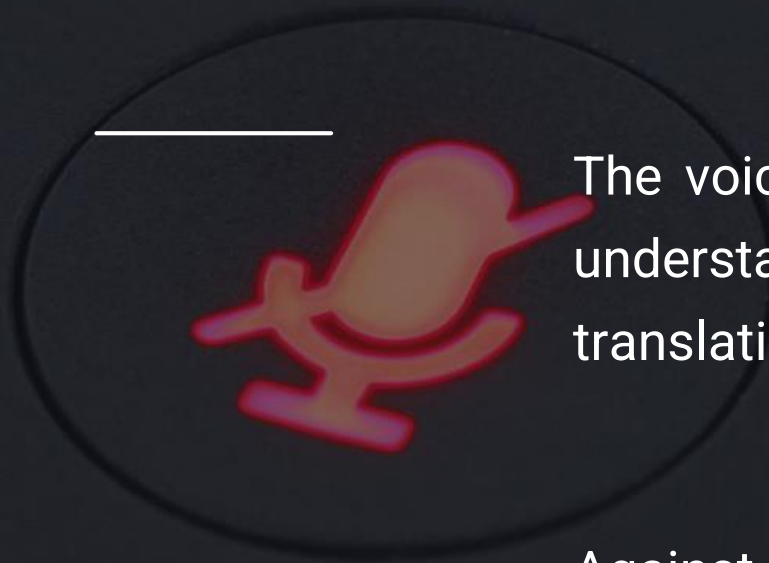
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PURPOSE OF THE STUDY

The triumph of smart speakers and digital voice assistants such as Amazon Alexa or Google Assistant seems unstoppable. What we are currently observing is that these applications are increasingly developing from non-commercial and private applications such as weather forecasts or homework support to commercial applications along the entire customer journey. In addition to the great convenience advantage, the benefit in terms of accessibility should also be seen as a driver for voice commerce.



The voice interface, as the most natural interface for us humans, faces the challenge of understanding different languages, dialects, ways of speaking and expressions and translating them into clear intents and answers.

Against this background, this study examines the range and quality of voice-based systems in the finance and insurance industry in Germany based on a comprehensive catalogue of criteria.



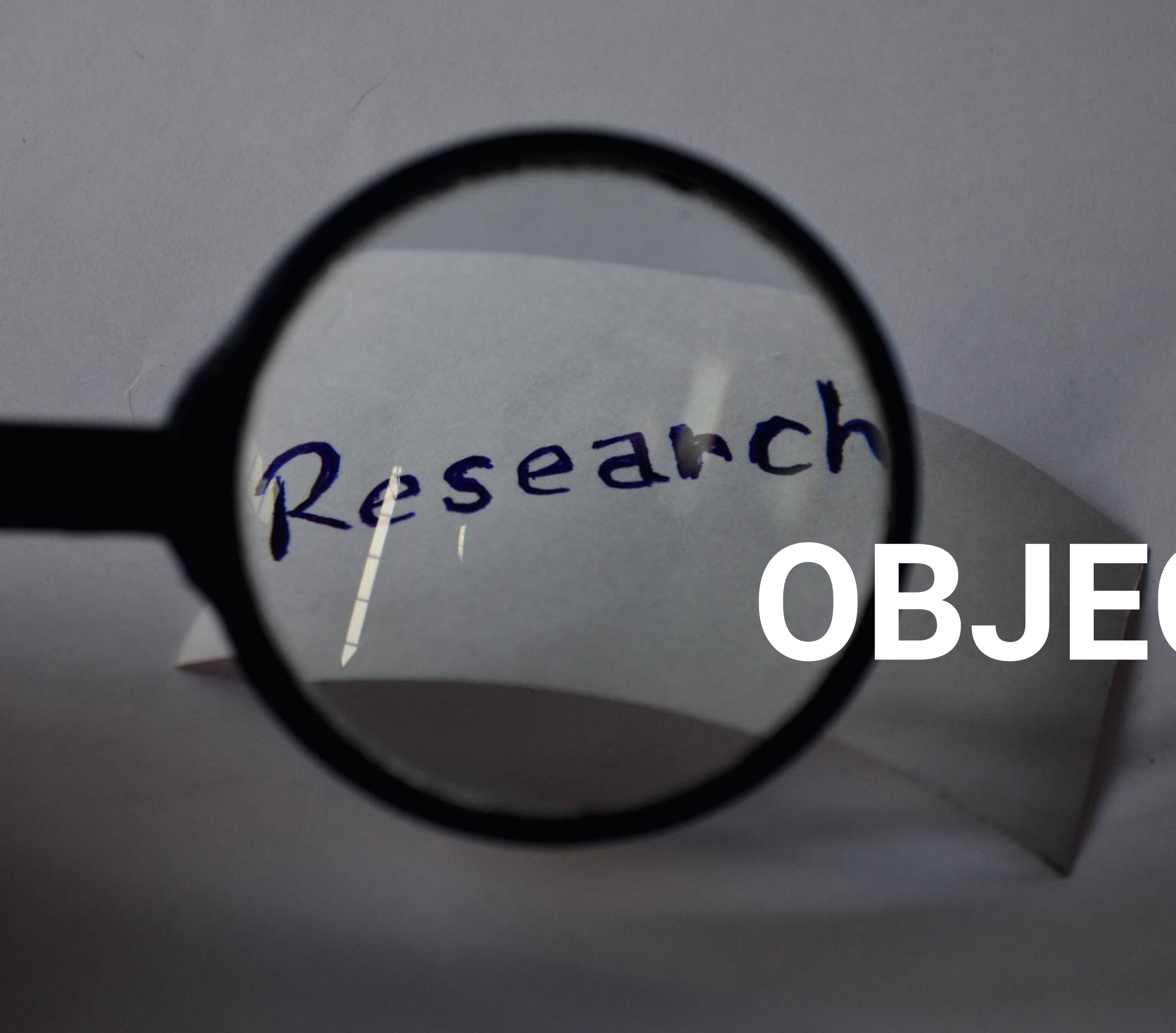
SOME FACTS

2020:

About **25%** of
Germans own a smart
speaker;
about **50%** of them
use it daily

67% of people
surveyed have concerns
about their privacy,
yet **64%** accept this
risk to make their lives
more comfortable¹





Research

OBJECTIVE



REVELANCE

Due to the digitalization, physical services are enhanced with digital offerings to so called "smart services".

→ In order to gain competitive advantage, firms need to implement solutions which help them to communicate even better with their customers.

According to an international study, **74%** of the surveyed organizations mentioned, that they incorporate **Conversational Assistants** as an important driver for business and customer strategies.





USER EXPERIENCE WITH VOICEBOTS

using the voice-based (Chat-)bots "Amazon Echo Dot" and "Google Home"
within the german speaking financial & insurance industry

Voicebots from seven banks and six insurance companies in German-speaking countries were tested for their response to typical and atypical customer questions.

The evaluation is based on the measurement criteria of sense making, entertainment and user-friendliness.²

Even within the ten biggest organizations in terms of customer count and total assets in the DACH-region, even among the most well-known companies, there is only a small offer of voice-based services or even a total lack of these.

Interestingly, FinTech's, Direct Banks and Interned-based Banks, offer less voice-based services than their traditional competitors.



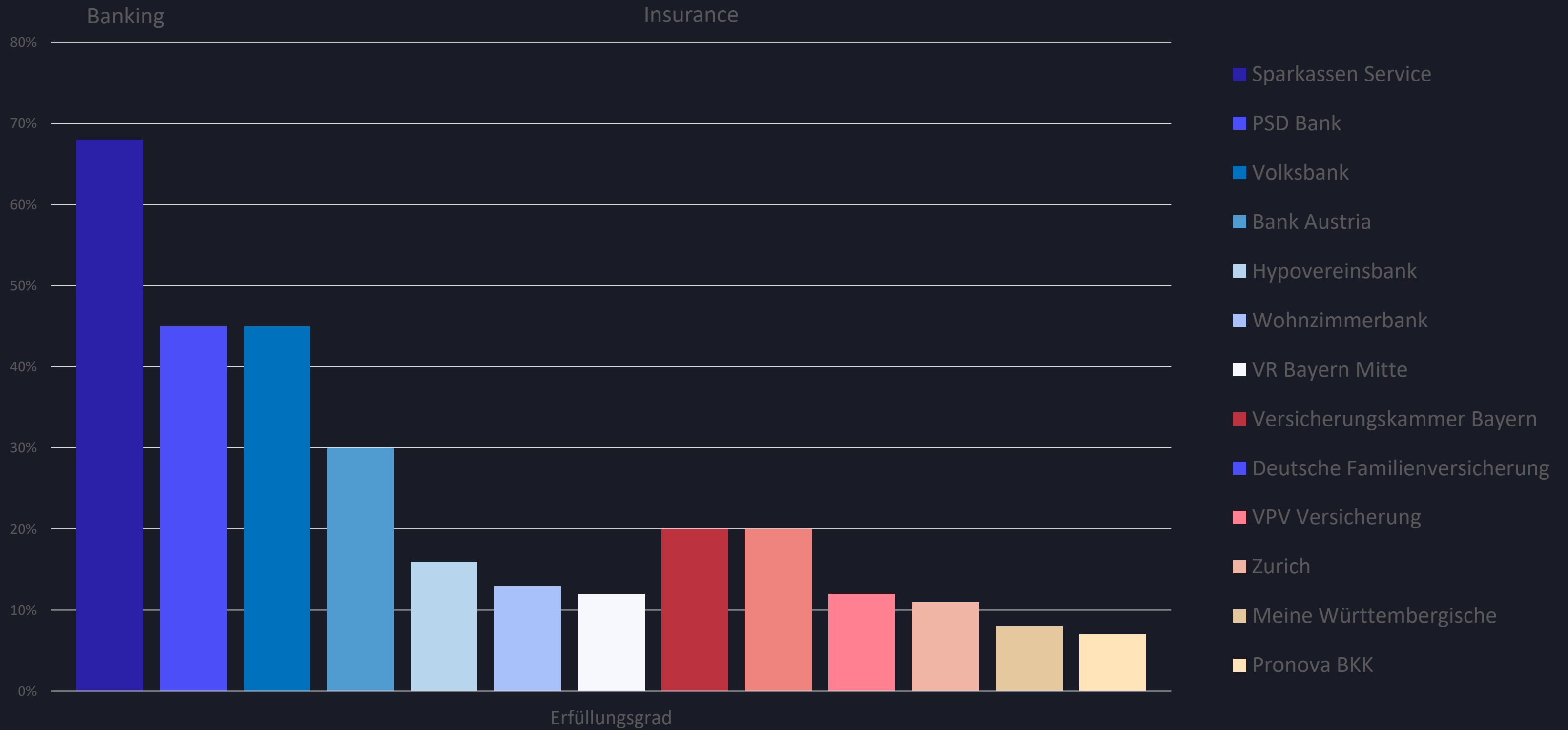
FINDINGS

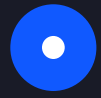




SENSE MAKING

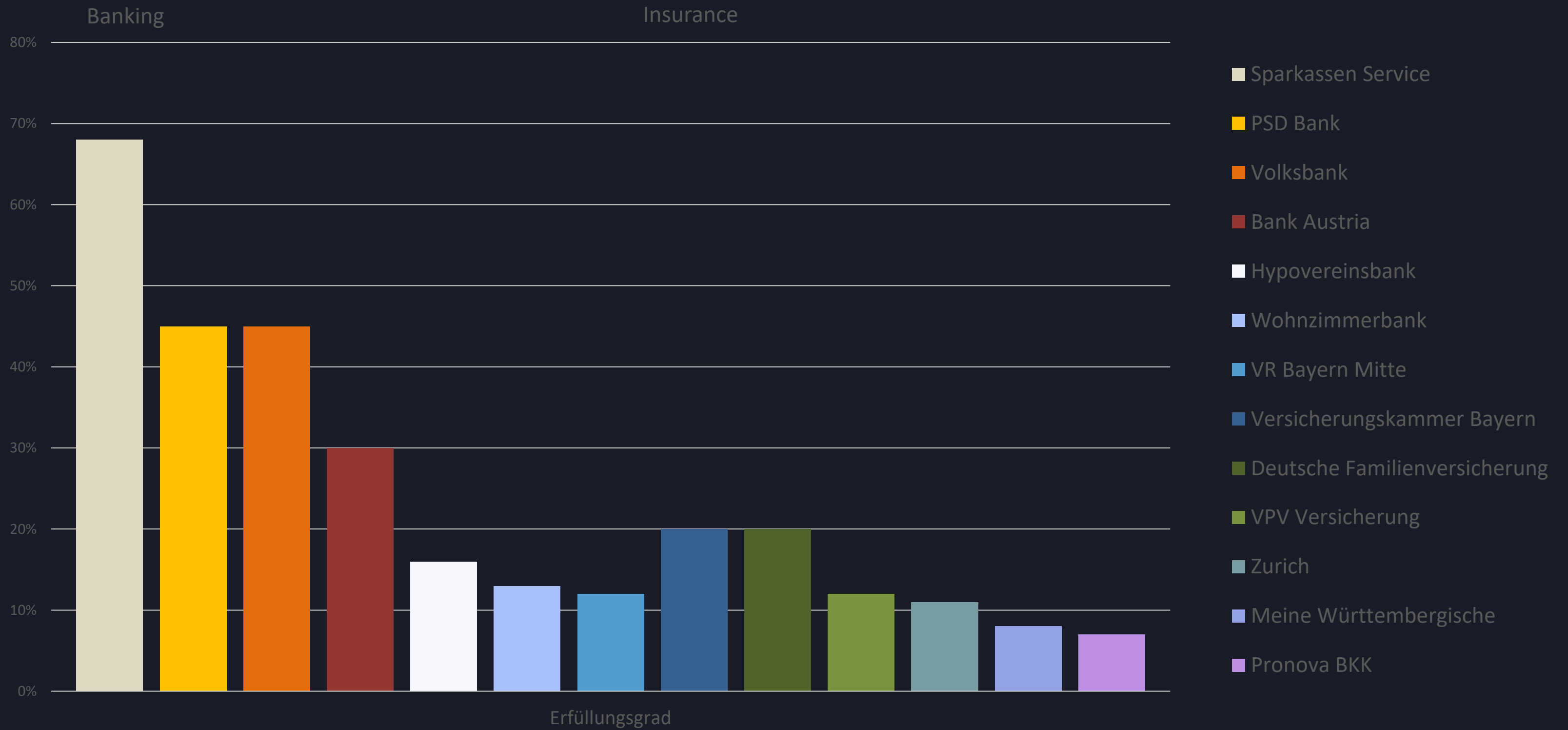
BANKING VS: INSURANCE

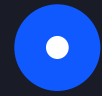




SENSE MAKING

BANKING VS: INSURANCE





SENSE MAKING

BANKING VS: INSURANCE

With a **hit rate of 38%** for topic-related questions, banks achieve the highest rate. Personal, non-technical and "off-topic" questions, on the other hand, were answered only weakly. Topic-related questions were also answered best by insurance companies, albeit with a **very low hit rate of only 15%** in comparison.

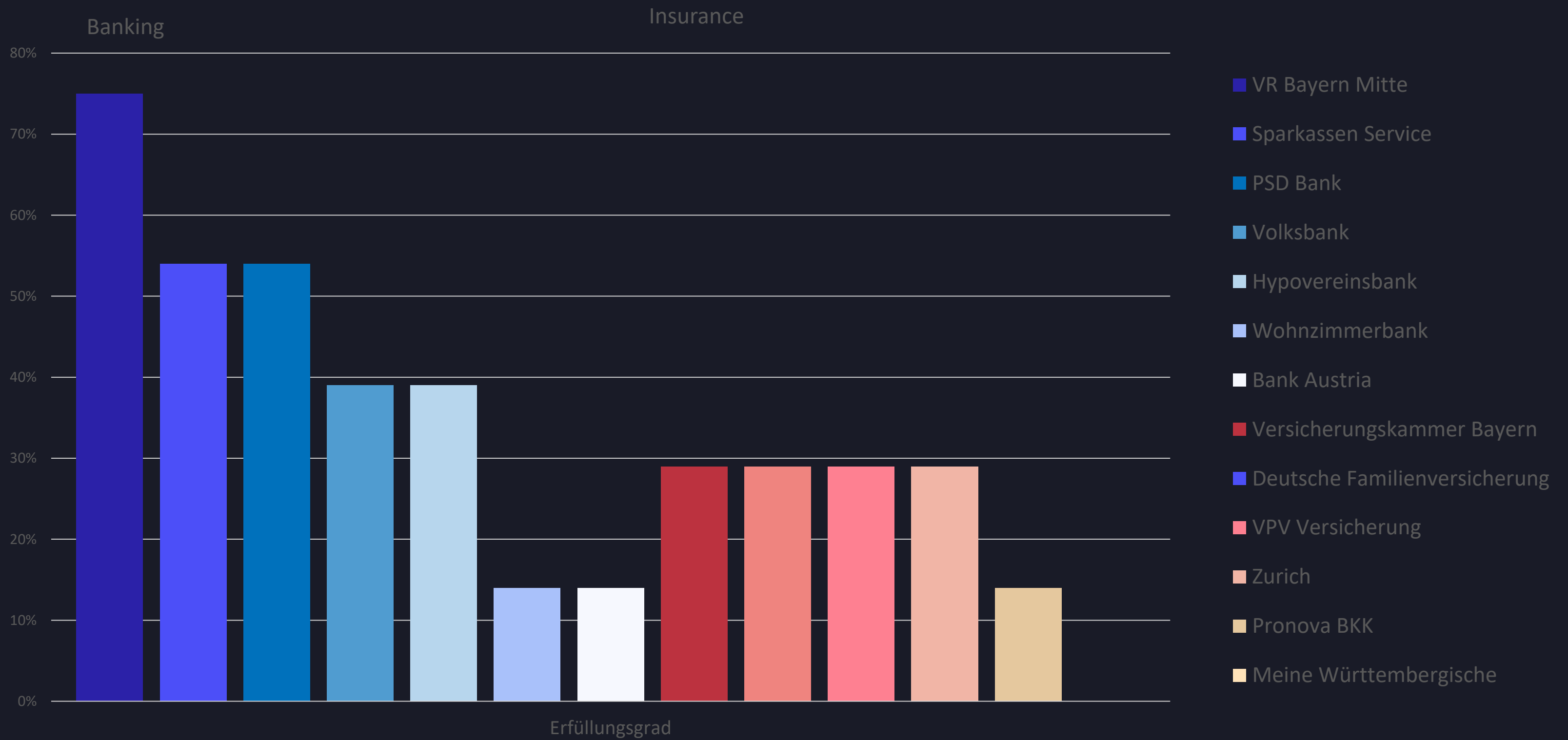
The usefulness of the voicebots reached an **average of 33% for banks**, while the criterion was only met by an **average of 13% for insurance** companies. This was since technical questions could only rarely be answered.

The chatbot answer accuracy, i.e., the proportion of correctly answered questions, was also very low. This also applies to the criterion of chatbot response, i.e., the total number of questions answered.



ENTERTAINMENT

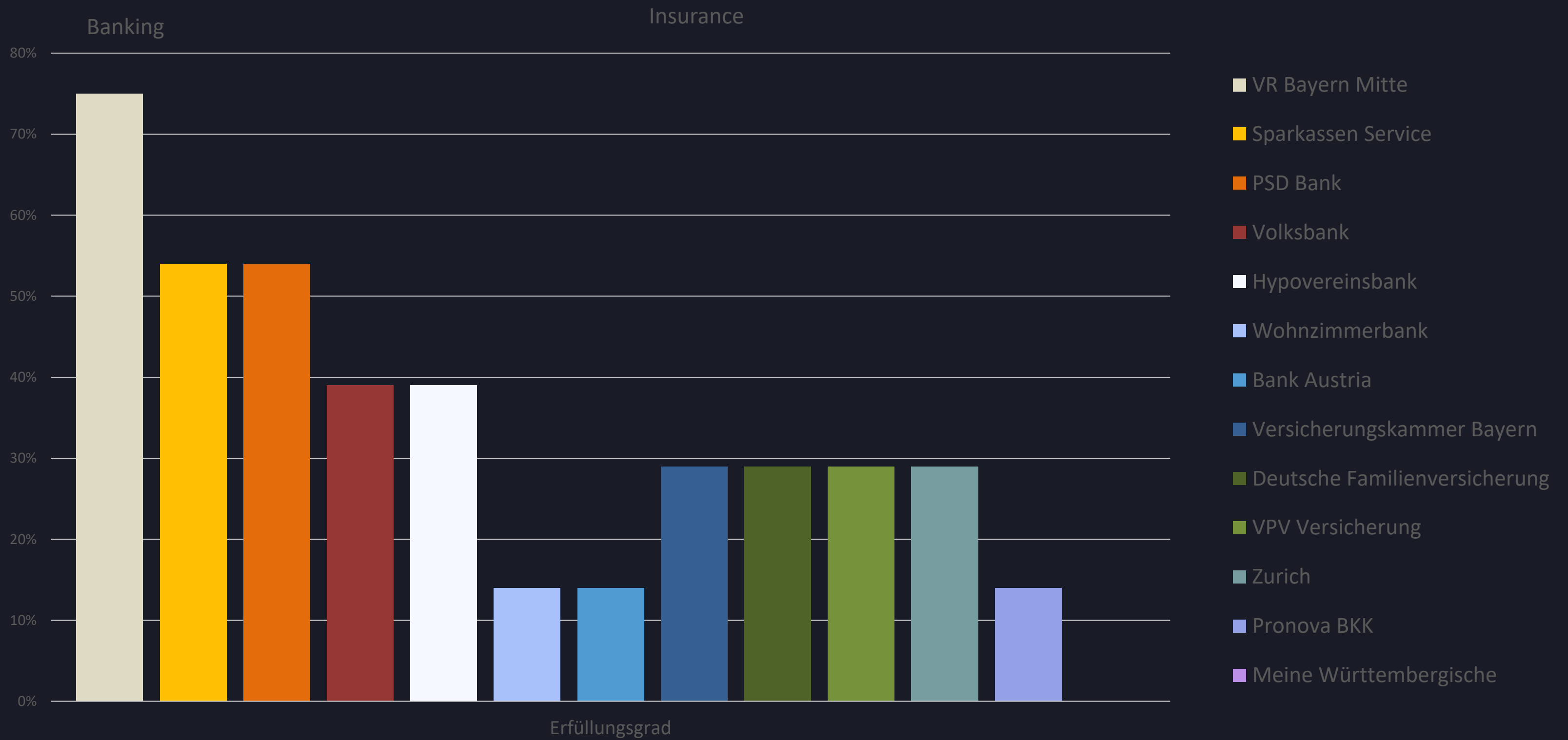
BANKING VS: INSURANCE

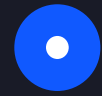




ENTERTAINMENT

BANKING VS: INSURANCE





ENTERTAINMENT

BANKING VS: INSURANCE

Entertainability achieved a higher target fulfilment than meaningfulness. With **46%**, **banks** are also **ahead of insurance** companies with an average target fulfilment of **22%**.

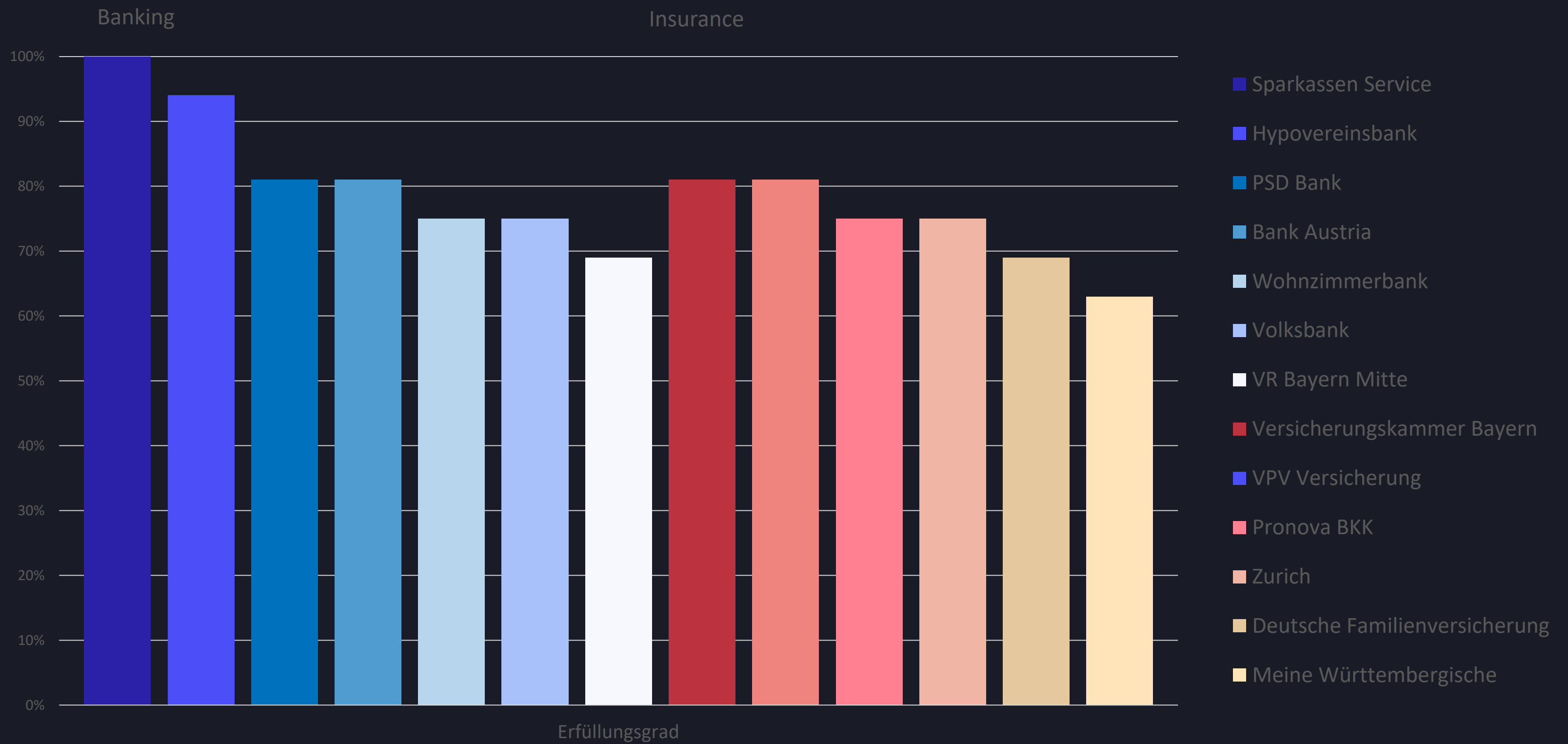
The feel-good factor during communication was **present in almost all bots**. It could not be determined that the voice assistants understood accents, colloquial language or even irony.

A **particularly high entertainment value** was measurable in the VR Bank Bayern Mitte voice offer, as the voicebot answered self-deprecatingly and demonstrated a sense of humor. The other bots maintained a very factual communication. Answers to personal questions or questions from the "off-topic" area were **hardly answered at all**. However, the very discovery of the new application has an entertaining character.



USER-FRIENDLINESS

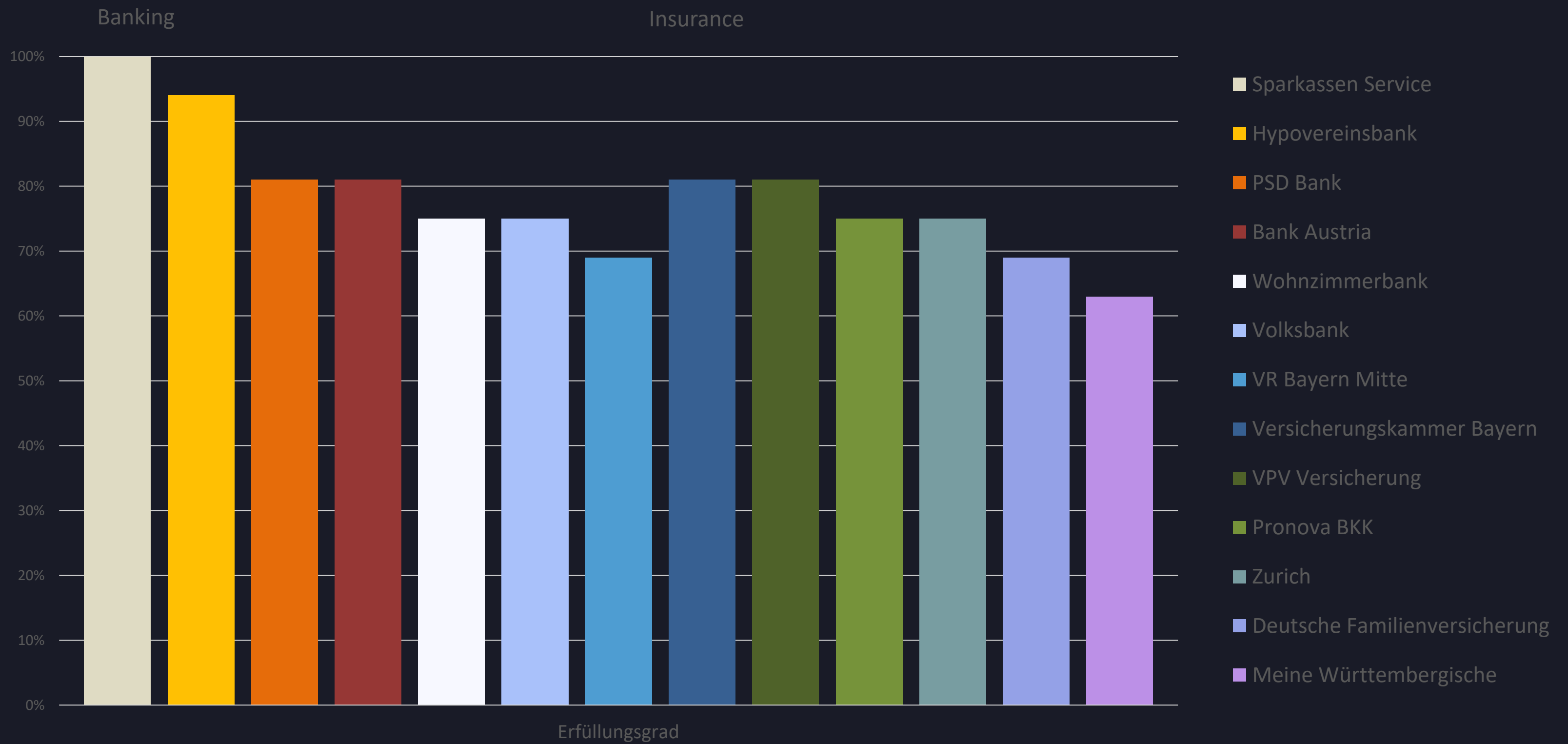
BANKING VS: INSURANCE

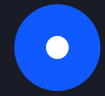




USER-FRIENDLINESS

BANKING VS: INSURANCE





USER-FRIENDLINESS

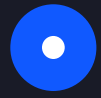
BANKING VS: INSURANCE

All voice applications were available as Alexa Skill. Additionally, the Skill "Sparkassen Service" and "HypoVereinsbank" is also available for Google Assistant. The response speed and average call length were also rated **positively**.

In terms of user-friendliness, the voice assistants of the banks and insurance companies are roughly on a par with an **average target fulfilment of 82 % and 74 %**.

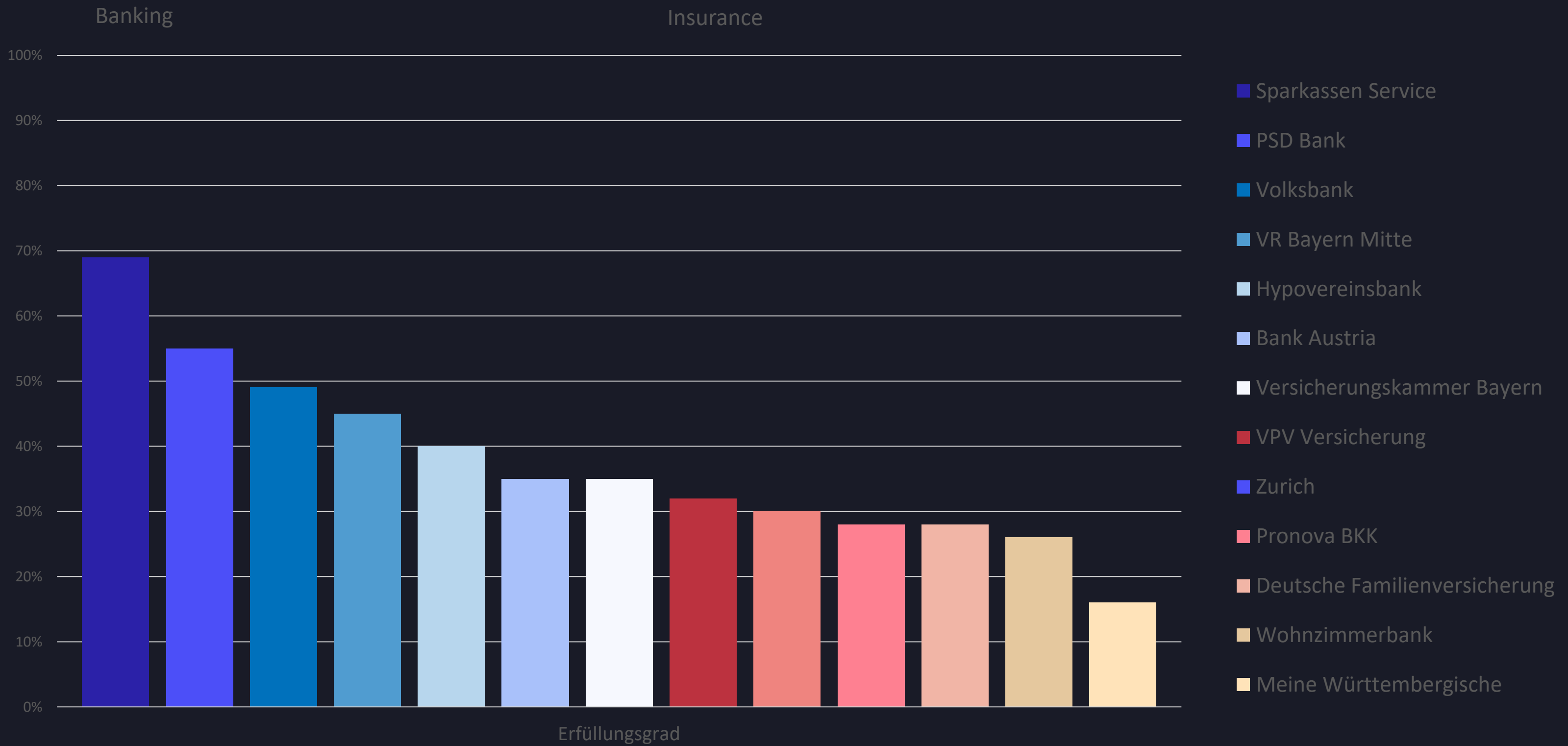
Overall, the best results were achieved for this measurement criterion. Moreover, the voicebots were easy to use without prior knowledge and were free of charge.





OVERALL

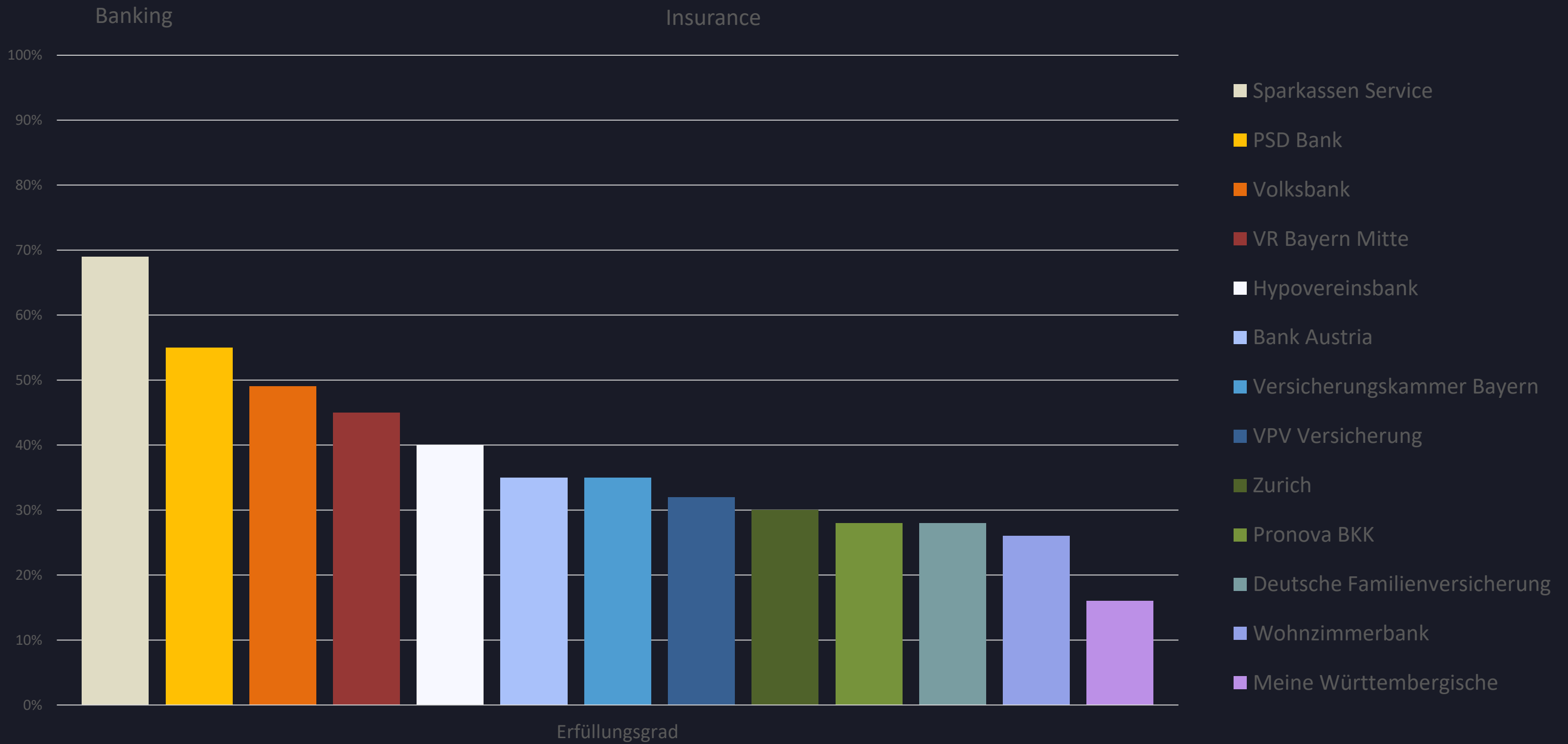
BANKING VS: INSURANCE





OVERALL

BANKING VS: INSURANCE



 OVERALL

BANKING VS: INSURANCE

With an **average overall target fulfilment of 46%**, the Voicebots of the **banks performed better** than those of the insurance companies with an **average overall target fulfilment of only 28%**.

While the response quality for the insurance companies varies only slightly among the bots and the hit rates in the individual question categories were similar, there were major differences among the banks. The sector comparison must be put into perspective as insurance companies are partly specialized in a few products. Therefore, the poor performance of insurance companies can also be partly explained by the fact that the questions were based on a broad product range.

With regard to the results of this research, it can be summarized that **only two out of 13 voice assistants** achieved a **target fulfilment above 50%**. Thus, it can be concluded that the majority of the tested voice offerings do not yet offer any real added value for the customer journey.

IMPLICATIONS

If voice assistants want to compete with human employees in the future, empathy and competence towards customers are **important key factors for a sustainable customer relationship**.

Speech recognition and output represent a key quality feature of voice assistants; however, the development of Natural Language Processing (NLP) and Natural Language Understanding (NLU) is still at an **early stage**.

Even though the recognition rate of words is now over 90% in German and English, voice assistants need to be continuously fed with information to cover a wider range of topics.

A **high level of intelligibility** of voice assistants is also a prerequisite for quality of use. This means, among other things, understanding ambiguity, sarcasm or conclusions, which voice assistants currently still have great difficulty with.

CONCLUSION

Even though the voice bots scored well in the Entertainment and Usability part, the study results reveal that especially in terms of sense making, there is still room for improvement. This indicates, that the focus is currently set on customer experience rather than on the conversational business aspect as the complete customer journey is often not quite covered yet. Furthermore, the industry analysis indicates that there is only a rare offering of voice applications for customers in German-speaking countries. However, the empirical study shows clearly that voice assistants are already acting as the first point of contact, and therefore offering some value for customers in the banking and insurance industry, but that the user experience is also not yet convincing for the most part.

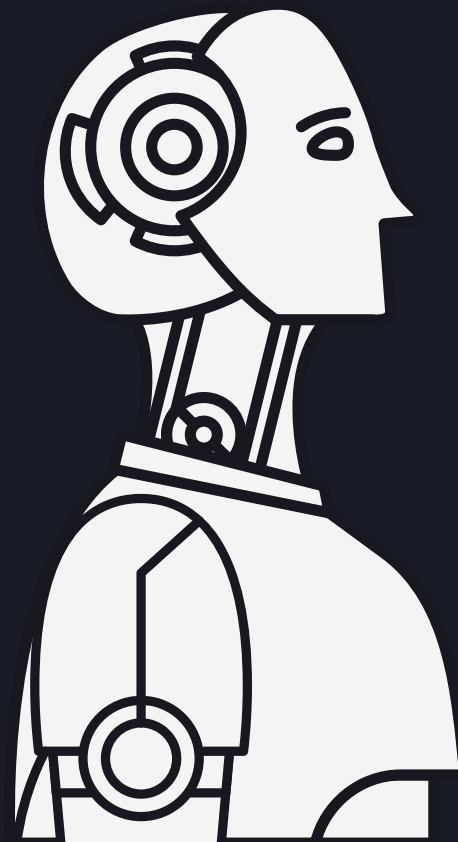
It can be seen, that the usage of NLP is already working well, in terms of clear intents. However, the challenge to be solved lies within NLU, as the technology is still in an early development stage.

In order for voicebots to establish themselves as a digital touchpoint and realize their full potential, data protection and the quality of the technology itself have been identified as critical factors. Companies can benefit from numerous automation options and have the chance to take their customer experience to a new level with the use of voice assistants.

In conclusion, it can be said that although voice commerce is still in its earliest stages in Germany, it will develop rapidly due to its high business potential.

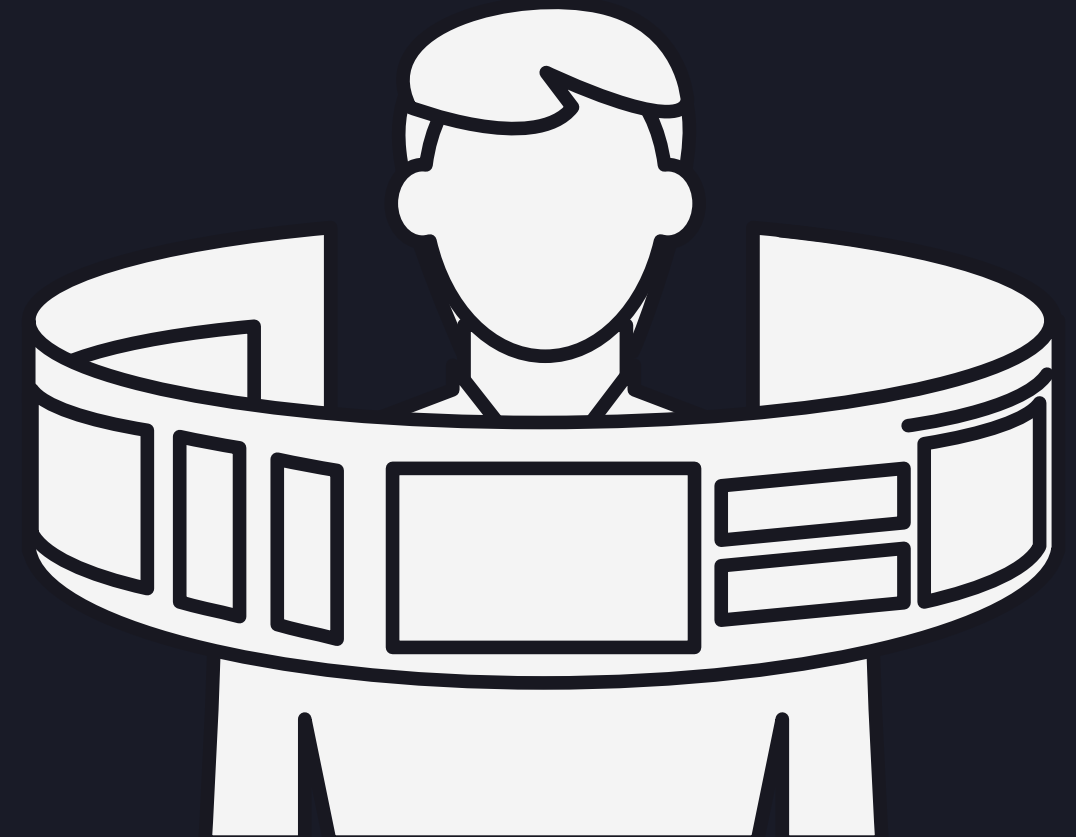
FUTURE PROSPECTS

The success of the "voice" interface is largely determined by technical and legal aspects, as well as the ability to integrate it into the customer journey.



How quickly and to what extent conversational business will establish itself in German-speaking countries will depend on complex factors that influence one-another.

On the one hand, the willingness of companies to innovate and adapt, as well as the dynamic development of the legal situation, will determine success; while on the other hand, the speed with which customers adopt this technology and their trust will also be a critical factor.



Institute for Conversational Business



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SENSE MAKING QUESTIONS

BANKING

1. Erzähl mir etwas über die Bank XY.
2. Was gibt's Neues von meiner Bank?
3. Wie kann ich ein Konto eröffnen?
4. Wie hoch sind die Gebühren für ein Girokonto?
5. Wo ist der nächste Geldautomat?
6. Wie kann ich Geld überweisen?
7. Wann hat meine Filiale geöffnet?
8. Welche Partnerangebote gibt es?
9. Wie kann ich mein Konto kündigen?
10. Wie lange dauert eine Überweisung?
11. Wie bekomme ich eine Kreditkarte?
12. Wie ändere ich mein Überweisungslimit?
13. Kann ich Mobile Payment nutzen?
14. Wie finde ich einen Bankberater in meiner Nähe?
15. Kann ich einen Rückruf vereinbaren?
16. Wie finde ich das passende Kontomodell?
17. Wie bekomme ich einen Privatkredit?
18. Wann und wie erhalte ich meine Kontoauszüge?
19. Wie erhalte ich eine neue EC-Karte?
20. Ich habe meine EC-Karte verloren. Was soll ich tun?
21. Wie kann ich meine PIN ändern?
22. Kann ich meine vermögenswirksamen Leistungen in Wertpapieren anlegen?
23. Was kann ich tun, wenn ich die Zugangsdaten zum Onlinebanking vergessen habe?
24. Wie kann ich einen Dauerauftrag erstellen?
25. Welche TAN-Verfahren können genutzt werden?
26. Wo kann ich Geld einzahlen?
27. Was kostet es, wenn ich mein Konto überziehe?
28. Kannst du mich zu Kwitt informieren?
29. Welche Vorteile gibt es für Studenten?
30. Was ist eine Fotoüberweisung?
31. Gibt es eine Kündigungsfrist?
32. Muss ich mich für Onlinebanking registrieren?
33. Ich habe meine Karte verloren. Wie kann ich diese sperren?
34. Wie kann ich meine Adresse ändern?
35. Wie hoch sind die Zinsen beim Tagesgeldkonto?
36. Ich möchte Geld in die USA überweisen. Wie hoch sind die Gebühren dafür?
37. Wie lange dauert eine Überweisung ins Ausland?
38. Kann ich im Ausland gebührenfrei Geld abheben?
39. Wo finde ich IBAN und BIC?
40. Welche Fördermittel gibt es bei einem Hausbau?

 SENSE MAKING QUESTIONS

INSURANCE

1. Welche Versicherungen gibt es?
2. Was gibt's Neues von meiner Versicherung?
3. Wie bekomme ich eine eVB-Nummer?
4. Welche Versicherung passt zu mir?
5. Was ist eine Wohngebäudeversicherung?
6. Wie werden die Beiträge der privaten Krankenversicherung kalkuliert?
7. Welche Kosten werden übernommen?
8. Wie kann ich meine Adresse ändern?
9. Informiere mich zu Verkehrs-Rechtsschutzversicherung.
10. Kannst du meinen Beitrag berechnen?
11. Gibt es eine Kündigungsfrist? Wenn ja, wie lange ist diese?
12. Bin ich im Ausland versichert?
13. Kann ich einen Berater sprechen?
14. Was ist eine Hausratversicherung?
15. Kann ich einen Rückruf vereinbaren?
16. Wie kann ich meinen Vertrag ändern?
17. Was passiert im Schadenfall?
18. Gibt es eine Beitragsrückerstattung?
19. Wie kann ich einen Schaden melden?
20. Informiere mich zu Berufshaftpflichtversicherung.
21. Was ist eine Rechtsschutzversicherungen?
22. Welche Leistungen bietet die Unfallversicherung?
23. Informiere mich zu Berufsunfähigkeitsversicherung.
24. Welche Schäden deckt die Kfz-Haftpflichtversicherung ab?
25. Was ist die Existenzschutzversicherung?
26. Wann erhöht sich mein Beitrag?
27. Wie lange sind die Vertragslaufzeiten?
28. Welche Leistungen übernimmt die private Krankenversicherung?
29. Wann beginnt der Versicherungsschutz?
30. Was möchte die Versicherung vor Abschluss einer Versicherung von mir wissen?