

DYNAMIC ARGUMENTATIVE DELPHI – NEUE REALTIME DELPHI-VARIANTEN

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DYNAMIC ARGUMENTATIVE DELPHI

– NEUE REALTIME DELPHI-VARIANTEN

- Prinzip von klassischen Delphi-Befragungen
- Argumentative Delphi-Verfahren
- Dynamik in den Argumentation
- Vor- und Nachteile
- Herausforderungen

Offene Kommentare/ Textfelder sind Standard

10. Please explain how you would solve the problem?

NOTE: this question allows you to build consensus over open-text responses. Once you answer the question, you can see responses from other panelists (under the "ALL ANSWERS" tab) and revise your answer.

✎ My Answer ✎ All Answers

blind ambition scary spy poke vernment fantastic advocate reliability politically representative electronics instruction shoulder twist series

100 %

Argumente für oder gegen eine Einschätzung: lange existent, selten durchgeführt

- weil aufwändig für die Teilnehmenden
- schwierig auszuwerten
- Einzelmeinungen, die schnell doch (entgegen dem Delphi-Prinzip) dominant werden können
- Statistiken sind einfacher zu handhaben, zweite Runde oder nächster Durchgang einfacher zu gestalten und zurückzuspielen
- ...

Relativ neu: Prinzip der Dynamik in den Argumenten

- die Argumente werden auch „eingeschätzt“/ „bewertet“/ „geteilt“
- Vorteile: man sieht sofort, ob andere „Experten“ ein ähnliches Argument bringen würden und man muss sein eigenes nicht unbedingt extra eingeben
- Wichtig: die Option für eigene Eingabe muss natürlich gegeben sein
- Häufig: **Begrenzung bei der eigenen Eingabe** und bei der Bewertung (z.B. dürfen nur 2 neue Argumente gegeben werden und 2 ausgewählt werden)
- in der Regel: **Vorgabe von 2-3 Argumenten**, damit Teilnehmende sehen, wie diese aussehen können, möglichst konträr oder unterschiedlich, wichtig für Lerneffekt, aber: Vorsicht! Nicht manipulieren!

BEISPIEL ZEITRAUM DER REALISIERUNG

■ Projekt BOHEMIA – Beyond the Horizon

Quelle: European Commission/ European Union (2017):
New Horizons: Data from a Delphi Survey in Support of
European Union Future Policies in Research and Innovation;
Report KI-06-17-345-EN-N; doi:10.2777/654172 or
<https://ec.europa.eu/research/foresight/index.cfm>

durchgeführt: Prospectiva und Fraunhofer ISI

- Zeithorizont in 5-Jahres-Schritten
- What is the time of realization?
(until 2020, 2021-2025, 2026-2030,
2031-2035, 2036-2040, 2041 and later,
never, gradual development without
specific timing, I do not know)
- Arguments for the Time of Realization



STATEMENT: Electric Mobility (fuel cells, solar cars etc.) has replaced 20% of combustion engine vehicles on the roads in the EU.

I am not sufficiently knowledgeable to address this statement

Skip >

Please estimate the time of realization for this statement:

Please select an option -

Please support your evaluation by selecting at least 1 and max 3 argument from below. You can also add up to three new arguments, if considerably different from existing ones.

The figures in brackets represent the frequency with which previous respondents selected that argument. The selections are listed in the order of their frequency. This order may change in real time depending on your own choice.

- In Germany, it has been suggested to ban petrol-powered cars in favour of electric vehicles by 2030. (1)
- Norway will ban new sales of fuel cars by 2025. (1)
- New developments in the solar industry will continue to drive down the costs of solar energy. (1)
- The autonomy of electric vehicles is increasing. (1)
- Electric cars are outpacing combustion engine cars in rallycross. (1)

STATEMENT: More than 30% of all food on the EU market is synthetic food.

Please estimate the time of realization for this statement:


2040 ▼

2025	0
2030	0
2035	0
2040	0
<i>Your initial evaluation</i>	1
Beyond 2040	0
Never	0
I don't know	0

You can keep your initial time evaluation, or adjust it from dropdown list. In any case, you can update your selection of arguments to support your evaluation:

- You cannot edit/delete the arguments you added previously, if any.
- You can select new arguments and/or deselect (an) argument(s) proposed initially.
- You can still add a new argument, if considerably different from the existing ones.

- Trust has to be built - there are many people who think that artificial (synthetic) food additives have a negative effect on human health. They will not buy synthetic food. **(2)**
- Convenient food is often synthetic - as people have no time, are lazy or do not know how to cook, they will more and more rely on synthetic food. **(1)**
- In 2011, a global poll of 5,000 people by consumer researcher company Nielsen found that 92% worry about artificial colouring agents and 78% are willing to pay a premium for natural alternatives. **(1)**

 Add another argument (if different from the above)

STATEMENT: More than 80% of the CO2 from European industrial production is re-used.

I am not sufficiently knowledgeable to address this statement

Skip



Please estimate the time of realization for this statement:

2035



Please support your evaluation by selecting at least 1 and max 3 arguments from below. You can also add up to 3 new arguments, if considerably different from existing ones.

The figures in brackets represent the frequency with which previous respondents selected that argument. The selections are listed in the order of their frequency. This order may change in real time depending on your own choice.

- As long as there is no CO2 capture on a large scale, this will take a lot of time. (64)
- There need to be significant additional incentives (economic and otherwise) for industry to implement carbon capture measures. (52)
- Circular economy and logistics are the key issues to reduce CO2. (27)
- Identify major sources for CO2 and start reduction from there. (18)
- An industrial plant in India has become the first in the world to generate almost zero emissions by capturing its own carbon dioxide (CO2) to produce valuable chemicals. (11)
- The decrease of CO2 production as industrial byproduct comes in favor of the re-use of the remaining CO2 captured. (10)
- It is impossible to reuse 80% of CO2 in the economy. The viable solution is to replace the CO2 source. (9)
- Many of the European companies operate in an global context. A global playing field is required for large scale implementation of CO2 re-use (=costly). (8)
- We are still missing a way to assess the true volumes of CO2 released in the atmosphere all along its life cycle, because it crosses a lot of industrial sectors and value chains. (5)
- If we only put a CO2 tax on the CO2 pollutor, it will happen. (2)
- There is not large enough demand for CO2 itself and if brought back to carbon the energy expenditure is too large to be economically feasible. (2)
- The change to microbiological processes will support CCS and CCU since microbes will produce a CO2 stream not in need of purification and they can accept CO2 streams of less purity. (2)
- While benefits of CO2 reuse have been identified and some applications exist such as enhanced oil recovery, other than the H2020 prize the EU offers no incentives for R&D. (1)

BEISPIEL: SIGNIFICANCE (WICHTIGKEIT)

■ Projekt BOHEMIA – Beyond the Horizon

■ Significance


■ A) Significance of R&I: Is R&I significant for the topic? Very significant to not significant – with arguments

■ B) or: Significance for EU R&I policy: Is the topic significant for EU R&I policy? Very significant to not significant – with arguments

■ Arguments are ranked

■ Focus: qualitative discussion

How significant is R&I for the realization of this statement?

Please give a rating from 1 to 5, where one star means "irrelevant" and 5 stars  means "R&I is the major driver"

Please support your evaluation by selecting at least 1 and max 3 argument from below. You can also add up to three new arguments, if considerably different from existing ones.

- As long as the vast majority of power is produced from fossil energy sources, the environmental benefits of electric vehicles are largely restricted to urban areas in order to improve air quality and reduce noise. (2)
- Given the reliance on expensive materials (e.g. rare earths), the costs of which are likely to rise with growing demand, alternative material options are needed. (1)
- Integration of electric vehicles as power storage devices in smart grid systems allows improving (peak) load management. (1)
- To compete against combustion engines, a breakthrough in battery efficiency is still necessary. (1)
- Electric mobility needs to be integrated in the broader context of smart cities. (1)

Add another argument (if different from the above)

Zweite „Runde“ im Realtime Delphi

STATEMENT: More than 30% of all food on the EU market is synthetic food.

Please estimate the time of realization for this statement:

2040

2025	0	<p>You can keep your initial time evaluation, or adjust it from dropdown list. In any case, you can update your selection of arguments to support your evaluation:</p> <ul style="list-style-type: none">You cannot edit/delete the arguments you added previously, if any.You can select new arguments and/or deselect (an) argument(s) proposed initially.You can still add a new argument, if considerably different from the existing ones.
2030	0	
2035	0	
2040	0	
Your initial evaluation	1	
Beyond 2040	0	
Never	0	
I don't know	0	

- Trust has to be built - there are many people who think that artificial (synthetic) food additives have a negative effect on human health. They will not buy synthetic food. (2)
- Convenient food is often synthetic - as people have no time, are lazy or do not know how to cook, they will more and more rely on synthetic food. (1)
- In 2011, a global poll of 5,000 people by consumer researcher company Nielsen found that 92% worry about artificial colouring agents and 78% are willing to pay a premium for natural alternatives. (1)

+ Add another argument (if different from the above)

How significant is R&I for the realization of this statement?



Please give a rating from 1 to 5, where one star means "irrelevant" and 5 stars means "R&I is the major driver"

5 stars	0	<p>You can keep your initial evaluation, or adjust it using the star rating system on the right. In any case, you can update your selection of arguments to support your evaluation:</p> <ul style="list-style-type: none">You cannot edit/delete the arguments you added previously, if any.You can select new arguments and/or deselect (an) argument(s) proposed initially.You can still add a new argument, if considerably different from the existing ones.
4 stars	0	
Your initial evaluation	1	
3 stars	0	
2 stars	0	
1 star	0	

- Natural and alternative health advocates have long claimed that artificial (synthetic) food additives have a negative effect on human health. (2)
- Synthetic food has the potential to address mostly low income markets, not EU markets. (1)

Funktioniert auch mit anderen Tools, aber Vorsicht: technische Hürden hoch

https://www.calibrum.net/srvcas1/survey.asp

SWOT - KPI Trends Survey - ...

calibrum

Page 8

8.1. What will be the average global temperature in 2030?

NOTE: This slider accepts values from 86 to 121 with 2 decimal precision. The "My Comment" tab is relabeled to "My Own Comment". Only subset of statistics is displayed for this question.

66 76 86 96 106 116 121

[\[Click to view consensus analysis by Gender\]](#)

My Own Comment Consensus Stats Comments

notion propose float labor proposal tourist technical cocaine servant excitement comprise speed satellite slowly touchdown you Islam giant documentary tour say maybe accessible act administrative afraid aide ally amount anticipate appointment array assembly attach autonomy balanced basis bedroom bend

15:42 17.01.2020

Ranking

https://www.calibrum.net/srvcas1/survey.asp

SWOT - KPI Trends Survey - ...

calibrum

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9.1. Please rank the following items in order of importance.

(Place most important items on top of the box and the least important items at the bottom.)

- Communication
- Research
- Development
- Debugging
- Documentation

[\[Click to view consensus analysis by Education\]](#)

My Comment Consensus Graph Stats Comments

describe swing none offender European effectiveness factor van two hallway grass incredibly soccer terrible pray clearly electricity coverage motor collect weed price contributor accident active admission afternoon airline also and/or anyway architect artist associated auction back barn beast bell billion block

15:43
17.01.2020

Ranking

The screenshot shows a web browser window with the URL <https://www.calibrum.net/srvcas1/survey.asp>. The browser tab is titled "SWOT - KPI Trends Survey - ...". The page has a navigation bar with tabs: "My Comment", "Consensus", "Graph", "Stats", and "Comments".

At the top, there is a text box containing a list of words: "describe swing none offender European effectiveness factor van two hallway grass incredibly soccer terrible pray clearly electricity coverage motor collect weed price contributor accident active admission afternoon airline also and/or anyway architect artist associated auction back barn beast bell billion block".

The main content area features a section titled "9.2. Please select the top 3 most important items and rank them in order of descending importance." Below this title is an instruction: "(Move the 3 items from the left box to the box on the right side by dragging them. Place the most important items on top of the box and the least important items at the bottom.)".

There are two boxes for item selection:

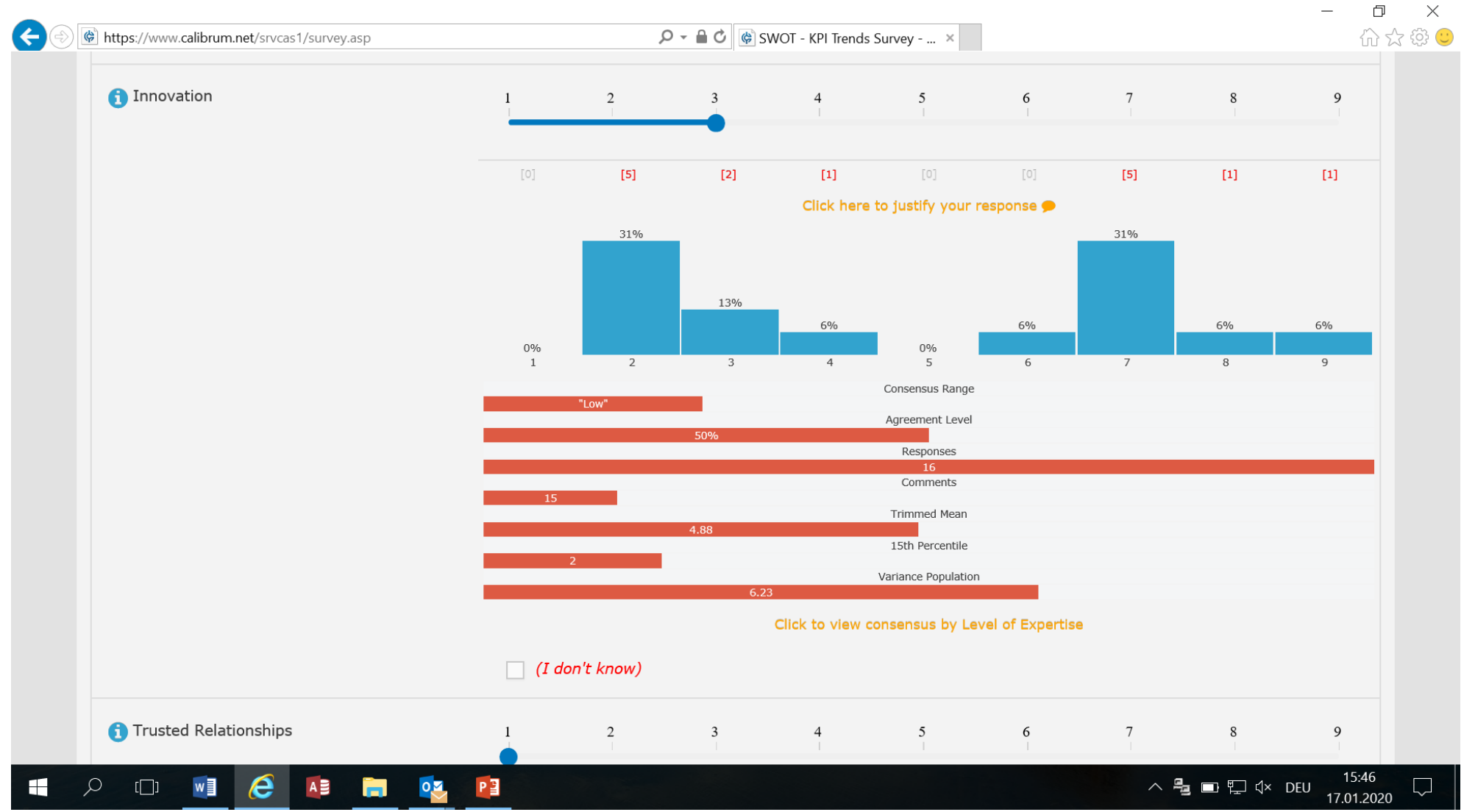
- Left box: Debugging, Communication
- Right box: Research, Development, Documentation

Below the boxes is a red link: [\[Click to view consensus analysis by Age\]](#)

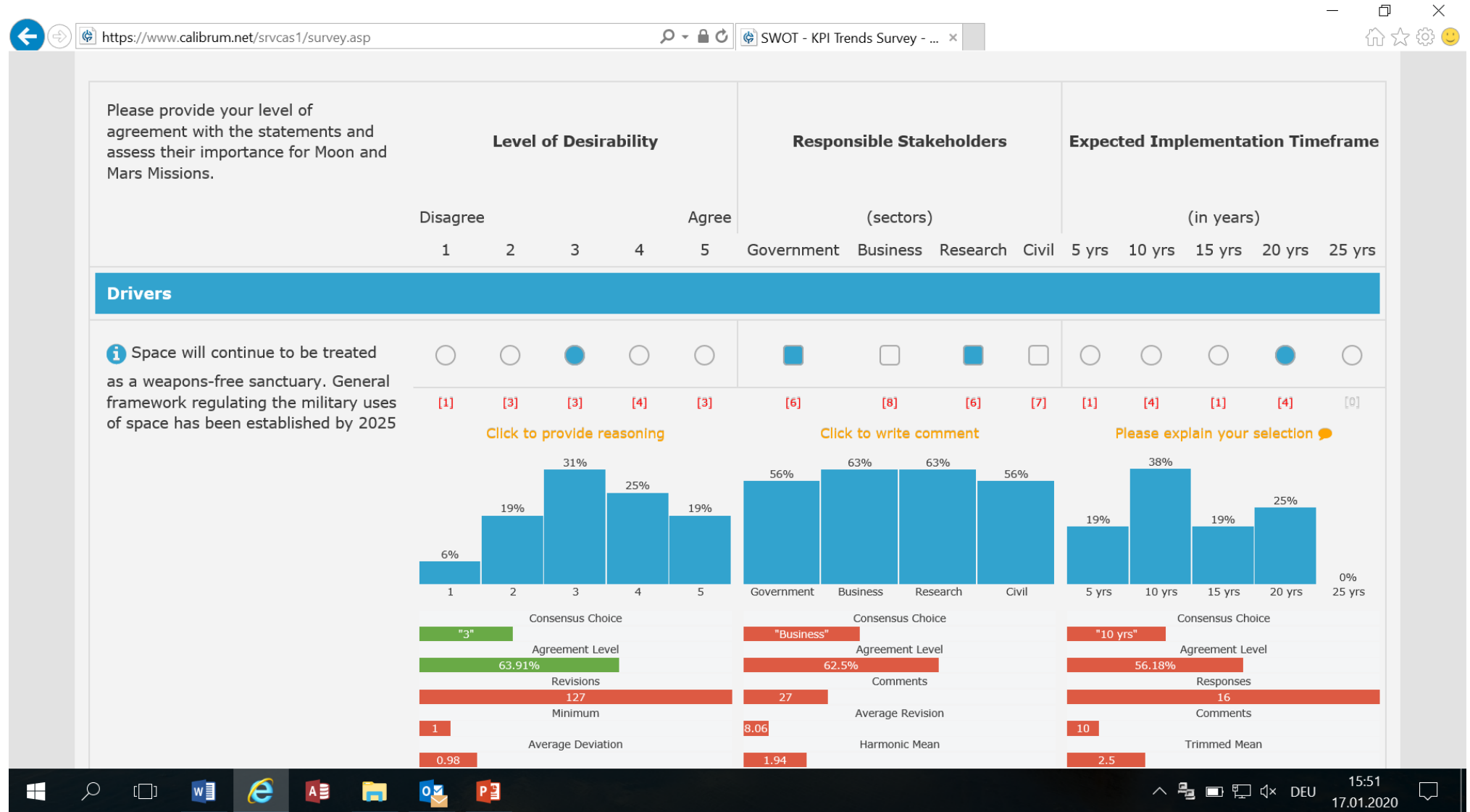
At the bottom, there is another navigation bar with tabs: "My Comment", "Consensus", "Graph", "Stats", and "Comments". Below this is another text box containing a list of words: "glimpse alone bankruptcy home ball other joint sale attend oversee lion bunch prohibit myself between burning elbow native reading snake actually soften democracy accommodate activist adopt age album always".

The Windows taskbar is visible at the bottom, showing icons for Windows, Search, File Explorer, Word, Edge, PowerPoint, and Outlook. The system tray shows the time as 15:44 and the date as 17.01.2020.

SWOT – Strength with low to high impact...



Alles auf einen Blick zurückgespielt: Vorsicht Überforderung!



Vor- und Nachteile

- ✓ Schnelligkeit des Realtime Delphi (im Feld) optimal genutzt
- ✓ sofortiges Feedback
- ✓ sehr viele Informationen, nicht nur die Statistiken aller Art, sondern auch die dazugehörigen qualitativen Erklärungen
- ✓ bei modernen Tools hat Moderator permanent Einblick und kann bei auffallenden Manipulationsversuchen eingreifen (war bisher noch nicht nötig)

Aber:

- viel inhaltliche Vorbereitung: nicht nur Thesen müssen kurz, eindeutig, ohne Bias und fundiert sein, sondern auch die vorgegebenen Argumente
- viel Vorbereitung bei der Programmierung und Tests
- „Fragebogen“ wird schnell sehr lang, insbesondere, wenn die Teilnehmenden sehr fleißig sind
- Auswertungsproblem: viele Daten und qualitative Informationen bedeuten auch viel Aufwand für die Auswertung
- häufig können die vielen (tollen) Ergebnisse gar nicht in einem kurzen Bericht untergebracht werden

Ausblick

- Aufwand eines dynamischen argumentativen Delphis (DAD) nicht unterschätzen!
Das gilt sowohl für die Veranstalter als auch die Teilnehmenden!
- Es wird schwieriger, Experten zur Teilnahme + erneuten Teilnahme zu überzeugen (Zeitmangel, Informationsüberflutung, zu viele Befragungen unterwegs etc.)
- DAD wird mit den neuen Tools einfacher -
individuelle Anpassung und Zeit für Testen wird aber schwieriger und dauert länger
- Bewusster Missbrauch ist – wie bei allen Befragungen und Tools – möglich und kann zunehmen!
- Falsche Handhabung und Fehlinterpretationen werden ebenso zunehmen.
- **DAD bietet in Zukunft extrem gute Möglichkeiten, viele Zukunftsinformationen zu generieren.**

Ich wünsche Ihnen Weitblick und gute Aussichten!



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