Interreg
Danube Transnational Programme
DBS Gateway Region

Potential analysis of the Danube – Black Sea region

Report WP3.2

Summary of the results of the answers to open questions from the regional work shop held in Novi Sad, Serbia and questionnaires distributed to stakeholders

Document Control Sheet

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Terms and abreviations

DBS	Danube-Black Sea
IWT	Inland Water Transport
ICT	Infornation and communications technology

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DBS GATEWAY REGION WORKSHOP

MASTER CENTAR, HAJDUK VELJKOVA 11, NOVI SAD, 20. 06. 2017., 09:30 - 15:00

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List of national stakeholders invited to participate in the Regional Workshop.

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Results of the regional workshop:

Executive summary

National Workshop organized by the University of Novi Sad, Faculty of Technical Sciences was held on 20th of June, 2017 in Novi Sad. The workshop was attended by a total of 51 participants from representatives of local and regional government, the public and state sector, the Serbian and Vojodina Chamber of Commerce, port operators, shipers, freight forwarding companies and universities. All participants acively participated in the disscusion during the workshop and part of them responsed to the questionnaire.

In the first part of the workshop, the DBS Gateway Region project presentation as well as presentation of the Potential Analysis Part I were held. The second part of the workshop put the emphasis on an active open discussion based on all questions from the questionnaire during which participants also filled out the submitted questionnaire. Conclusions from the discussion as well as some general conclusions are provided in the responses to the questions that follow in the report.

I. Transport logistic requirements and regional value added services in the Danube – Black Sea Region.

i. Major challenges that companies face when transporting goods on the Danube River;

- Legislation - this is particularly important in regard to fiscal aspects (taxes, charges). Port operators suggests that control of existing regulations and potential penalties for violating them is better than inventing new rules.
- Waterway infrastructure - the main objective is to improve the waterway infrastructure by proper maintenance and by removing bottlenecks.
- Lack of information sharing and e-market for IWW transport capacity which at the end impose the low of integration of IWW transport into logistic chains.
- The IWW transport capacities are not small, but they are obsolete and require the large quantities of goods to be transported in order to be cost efficient.
- There is not enough support of state institutions. Low awareness and acceptance of IWW transport in the minds of policy makers.
- A seasonal variation of transport fares which relates primarily to the grain transport season, when transport prices are much higher which may cause problems in long term contracting with customers.
- Navigation, low economic activity, lack of awareness of Danube logistic potentials.
- Reduced volume of large infrastructure projects.
- Lack of subsidies and big additional taxation for business entities engaged in IWT.
- Protectionism of rail transportation in relation to water transportation.
- The lack of investment funds for the renewal of the shipping fleet, (which is today on average about 50 years old).
- A number of administrative problems for which the money is not needed, but only a good work ethic.

ii. How low should be the price of the cargo transportation and handling on the Danube River in comparison to the road and rail, in order to choose this transport mode over the others?

- For most of the bulk cargoes, the IWT is still the cheapest mode (price/tone-km).
- However, for any other cargo the prices are higher comparing to the rail or road/rail-road transport.
- IWT should become an alternative for other cargo types but only in situation of sufficient cost efficiency. Currently there is an unsolved closed loop: ports are able to organize operations with containers if there would be enought goods demanding such transport, on other side container transport would be chosen by operators if ports and shippers would offer such services, while the shippers would offer such services if the water depth would be sufficient for an cost and time effective transport of containers.

Previous experience with container lines shows that financial support of some development projects that supported the lines were nearly enough to maintain line competitiveness.

iii. How do you perceive the landlord ownership structure of the Danube ports in your country?

In Serbia ownership structure of the ports is a problem for the development of the IWT. Major mistakes were made after 2000, when the ports were privatized, without the active and responsible participation of the State (public interest) regarding the future development strategy of ports. Currently, only the port of Novi Sad is under the government management (both infrastructure and suprastructure of the port are owned by the state), and it is not privatized. All other ports are privatized without clear definition of the ports land ownership. The future ownership structure should be based on public and private partnerships, but this requires a clear development strategy of IWT and the ports defined by the state.

iv. In what time frame do you expect some significant changes in the Danube logistics?

In 5-10 years, with the stabilization and sustainable development of the economy, with the intensive education of all stakeholders about how logistics is adding value, and its role as a service for the economy and what chances it provides for the utilization of resources (logistics centers) and the creation of new jobs.

II. Potential of shifting transport modes

v. Do you expect the cargo flows on the Danube to increase in the next 10-20 years?

- According to the data presented by Port Governance Agency the third of all goods transhipped in Serbian inland ports (9.6 million tons) are gravel and sand. Hence there is potential for increasing flows of other bulk cargo types.
- Aside from bulk cargoes, oversized and heavy cargo, as well as biomass could become significant.
- Optimistic stakeholders also expect the increase of the container flows in the long run. However, it requires increase of logistical know how, better integration of the IWT on the Danube in the EU transport network and existing supply chains, as well as development of value added services in the ports - more precisely transformation of the ports into logistic centers.

vi. If yes, what type of cargo you expect to increase and how much (in percent)?

- Bulk cargo (at least 20%), depending on economic activities - consumption of raw materials, energy products, input components in production, etc.
- From the cargo flows, with the increase of final production and stabilization of the economy of the region, it is possible to expect a sustainable container line (at least two times a week) and transport of cars (up to 50,000 cars a year).

vii. What origin and destination of the increased cargo flows do you foresee?

- Bulk cargo, as before (raw materials to Europe, cereals to Constanta (Romania)).
- Containers from Constanta (perhaps from Varna) to all parts of the Danube region (excluding Bavarian ports). Potential are also the return of trans-shipped empty containers from the EU via Constanta to the Far East, as well as export of the goods from the region to Asia.
- Automobiles in both direction, mostly from Germany (also Austria, Slovakia, Hungary) towards the Southeast Europe and Black Sea. Upstream cars from Romania, Hungary, Slovakia.

III. Barriers for the business, forecasts and recommendations

viii. Measures necessary to increase the attractiveness of the IWT in the DBS region;

- Proper navigational conditions, assuring 2,5 meter water depth.
- Consolidation of transitional economies (especially in Serbia).
- Education, increasing the logistic know how.
- Revitalization of ports and waterway infrastructure.
- Modernization of the fleet.
- Transformation of the ports into logistic centers.
- State incentive for water transportation of goods.
- Improvement of cooperation between stakeholders.
- Application of new and innovative technologies.
- Improving image of attractiveness of the IWT through systematic and professionally processed information to the state authority. ("Funds could be found but there are no real projects and right information processed to the Secretariat of Autonomus Province of Vojvodina").
- It is important to have a well-organized legal system in IWW transport and to respect the rules, especially when it comes to the temporary transhipment sites whose functioning have to be regulated by robust planning documentation (which is primarily task of the Port Governance Agency).

ix. What are main reasons for the underdeveloped IWT on the Danube River?

- Political/legal governmental influence is the most important barrier for underdevelopment of IWT in Republic of Serbia.
- Economy, which is devastaded in transition from socialism to capitalism (instead of renewal and consolidation).
- Low GDP, which as a consequence has a small presence of containerized goods in cargo flows to and from Serbia.
- Lack of awareness of Danube logistics potentials and generally logistics as important part of economy.
- Navigation.
- Low level of awareness and acceptance of IWT by state authority. Absence of real perceptions in the minds of policy makers about the performance and competitive strenght of the IWT.
- The lack of a clear economic strategy for the Republic of Serbia.
- The lack of cooperation on the Danube, as well as lack of joint plans for entering new markets and attracting new cargo flows to the Danube.
- The lack of interest from state authorities for the development of IWT.

IV. Other issues

- Inadequate quality of hinterland infrastructure between port and hinterland rail connection.
- Logistics service providers do not consider inland waterway as optional transport mode in planning transport chains.

Analysis of the questionnaires

The questionnaire developed within the project DBS Gateway Region, consisted from tree groups of questions,

1. General information,
2. Barriers for inland waterway transport use,
3. Opportunities for inland waterway transport use.

A total of 21 questionnaires were collected in the Republic of Serbia:

- 16 questionnaires at the **DBS GATEWAY REGION WORKSHOP IN NOVI SAD (**20.06.2017.),
- 5 questionnaires by e-mails.

Distribution of collected questionnaires by the type of stakeholder (sector) is shown in the Table 1.

Table 1. Participation of respondents by sector

	Sector	Number of respondents	%
1.	Public authority and sectoral agencies	4	19.05
2.	Infrastructure service providers and logistics service providers	9	42.85
3.	Industrial and trading companies	4	19.05
4.	R&D/University	4	19.05
	Total	21	100,00

For each group of respondents, analysis of the collected responses is performed, according to:

- Structure of answers per questions(for each group of questions),
- The average rating for each question in the group;
- Total average rating for the group of questions;
- Specific comments;
- Comparative analysis of the results, obtained by each sector and each group of questions.

Minimum rating for each question was 0, while maximum was 3 (3 = most significant factor for NOT using the inland waterway).

1. Analysis of questionnaires by sectors

1.1. Public authority and sectoral agencies

The total number of respondents in this group is 4.

Structure of answers and average ratings of questions from each group are shown in the figures 1 to 14.

1.1.1. Barriers for inland waterway transport use because of (1) goods

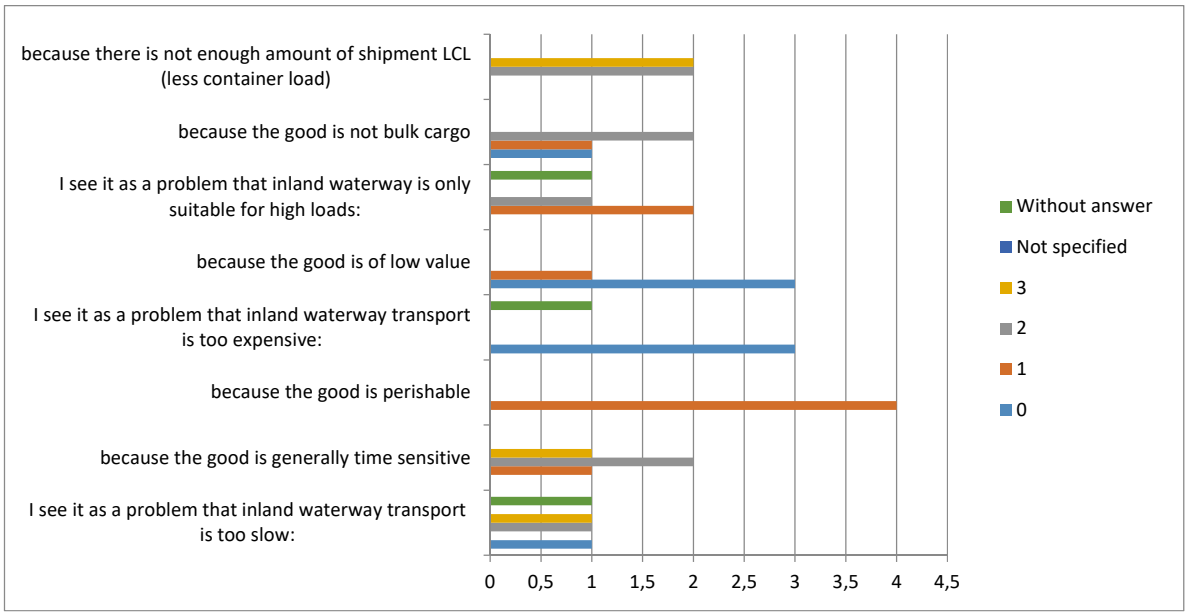

Figure 1. Participant answers (public authority and sectoral agencies) regarding the influence of goods on usage of inland waterway transport

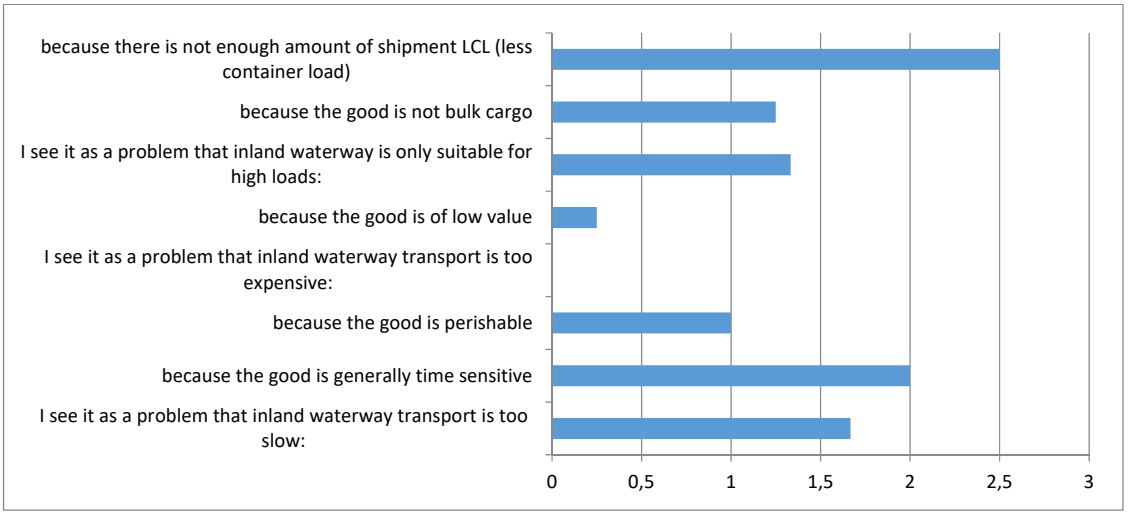

Figure 2. Theaverage rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- There is not enough amount of shipment LCL (less container load) –the average rating is 2.50;
- The good is generally time sensitive –the average rating is 2.00.

The **total** average rating for a group of questions regarding the impact of **(1)goods** influence on usage of inland waterway transport is **1.28.**

1.1.2. Barriers for inland waterway transport use because of (2) logistics

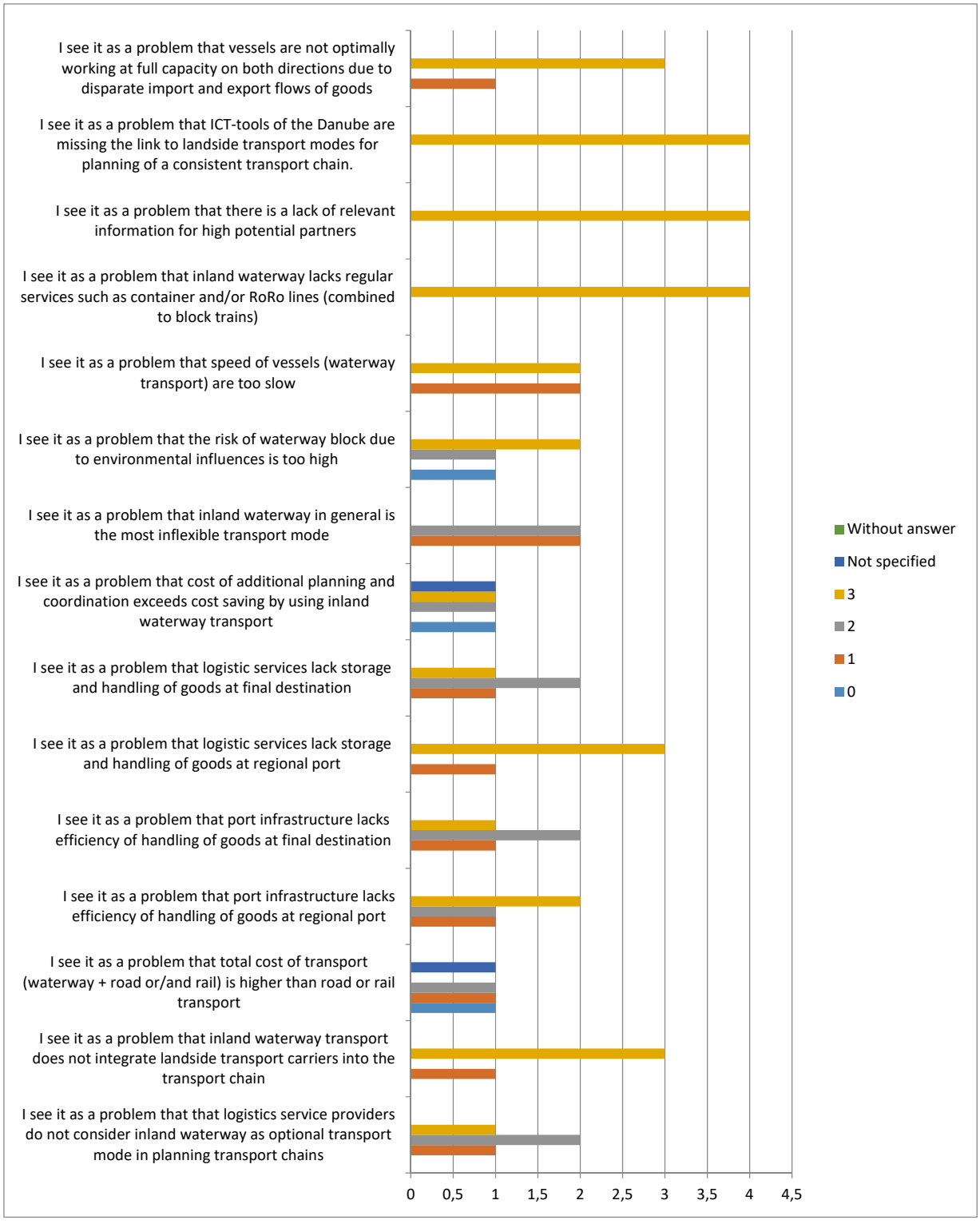

Figure 3. Participant answers (public authority and sectoral agencies) regarding the influence of logistic development on usage of inland waterway transport

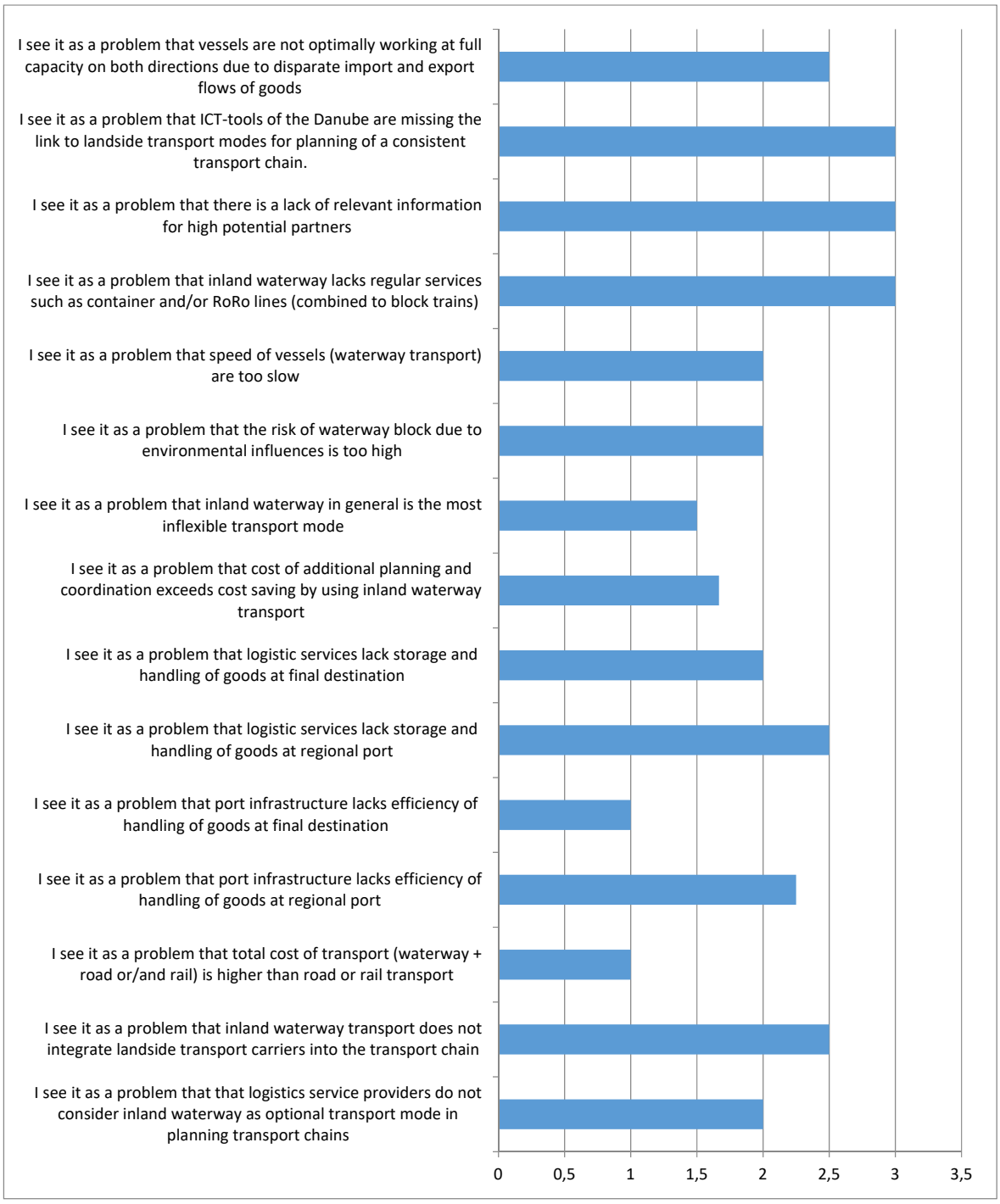

Figure 4. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- That inland waterway lacks regular services such as container and/or RoRo lines (combined to block trains) - theaverage rating is 3.00;
- Lack of relevant informations for high potential partners – the average rating is 3.00;
- ICT-tools of the Danube are missing the link to landside transport modes for planning of a consistent transport chain –the average rating is 3.00.

The **total** average rating for a group of questions about the impact of **(2) logistics** influence on usage of inland waterway transport is**2.22.**

1.1.3. Barriers for inland waterway transport use because of (3) infrastructure

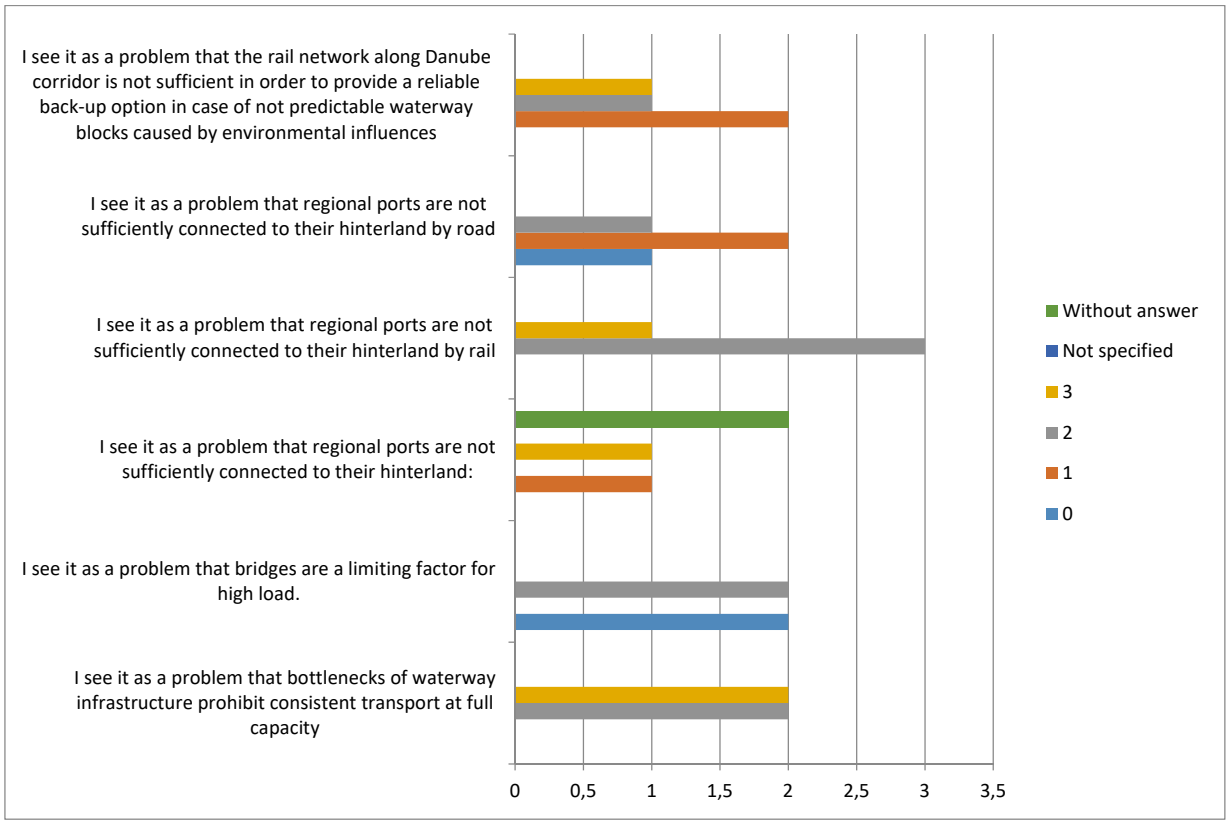

Figure 5. Participant answers (public authority and sectoral agencies) regarding the influence of infrastructure development on usage of inland waterway transport

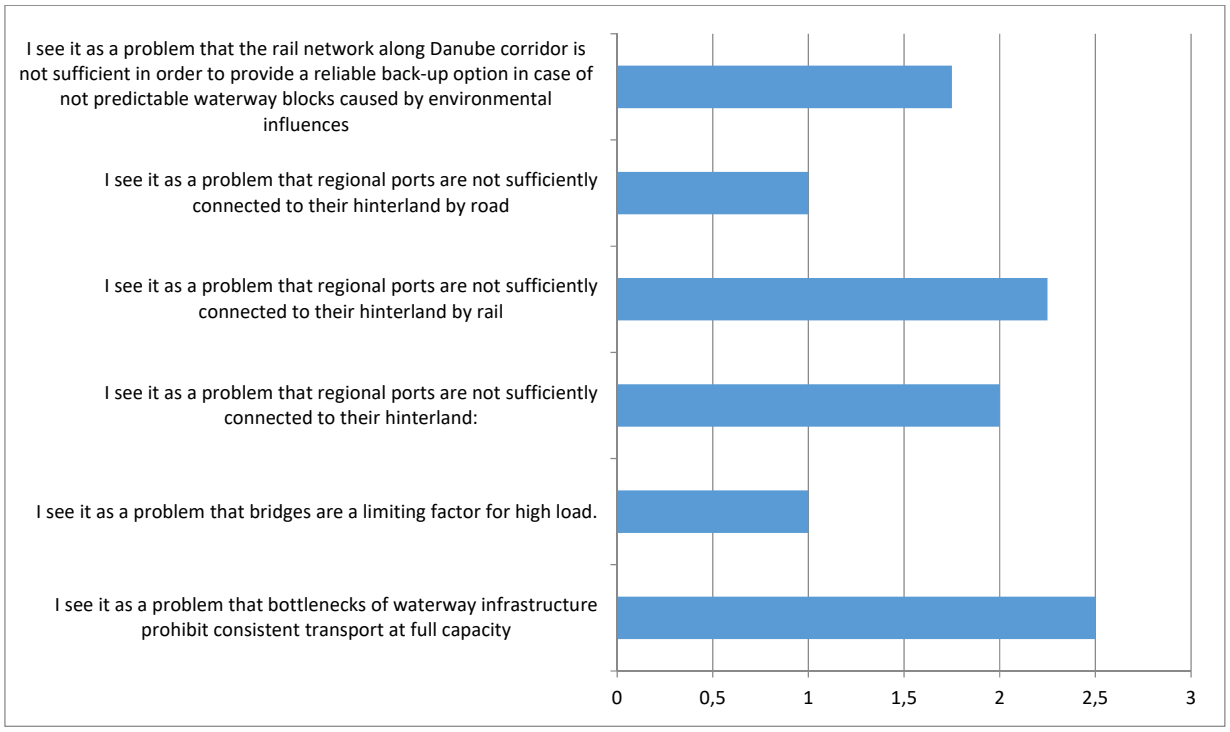

Figure 6. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Bottlenecks of waterway infrastructure that prohibit consistent transport at full capacity –the average rating is 2.50;
- Regional ports, which are not sufficiently connected to their hinterland by rail– the average rating is 2.25.

The **total** average rating for a group of questions about the impact of **(3) infrastructure** developmentinfluence on usage of inland waterway transport is **1.73.**

1.1.4. Barriers for inland waterway transport use because of (4.1) political/legal

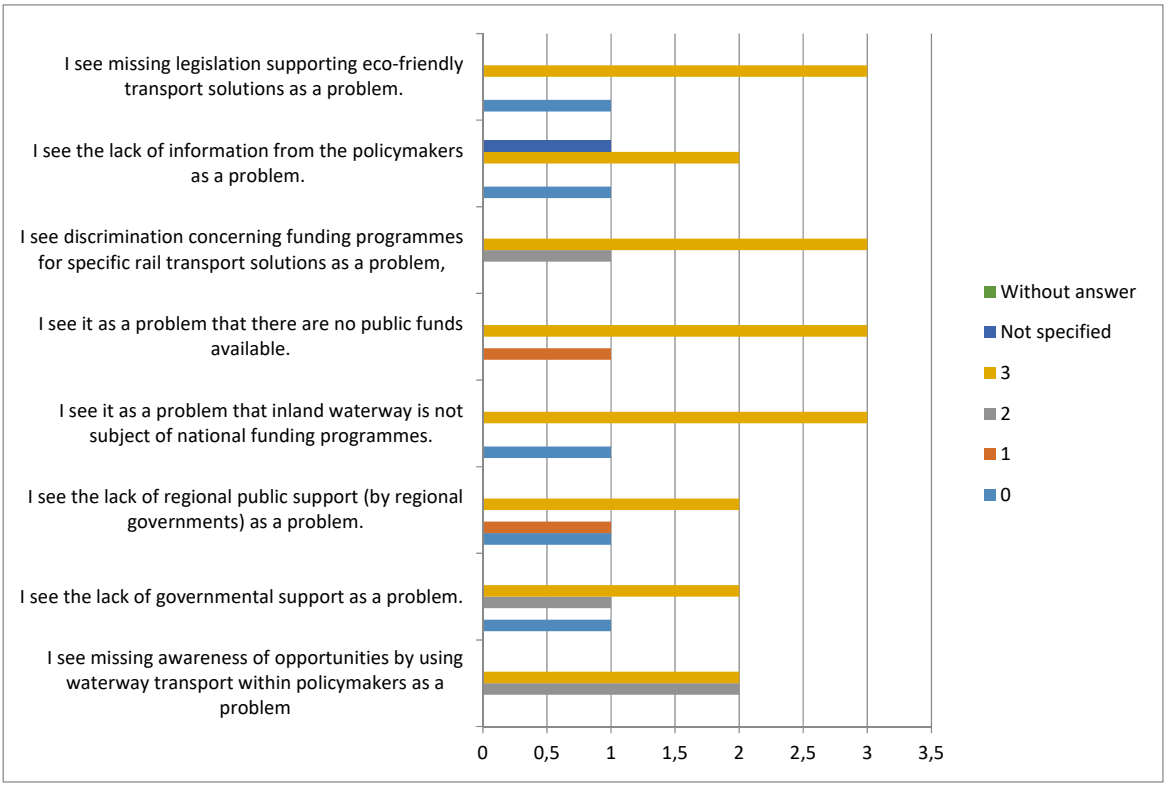

Figure 7. Participant answers (public authority and sectoral agencies) regarding the influence of policy making on usage of inland waterway transport

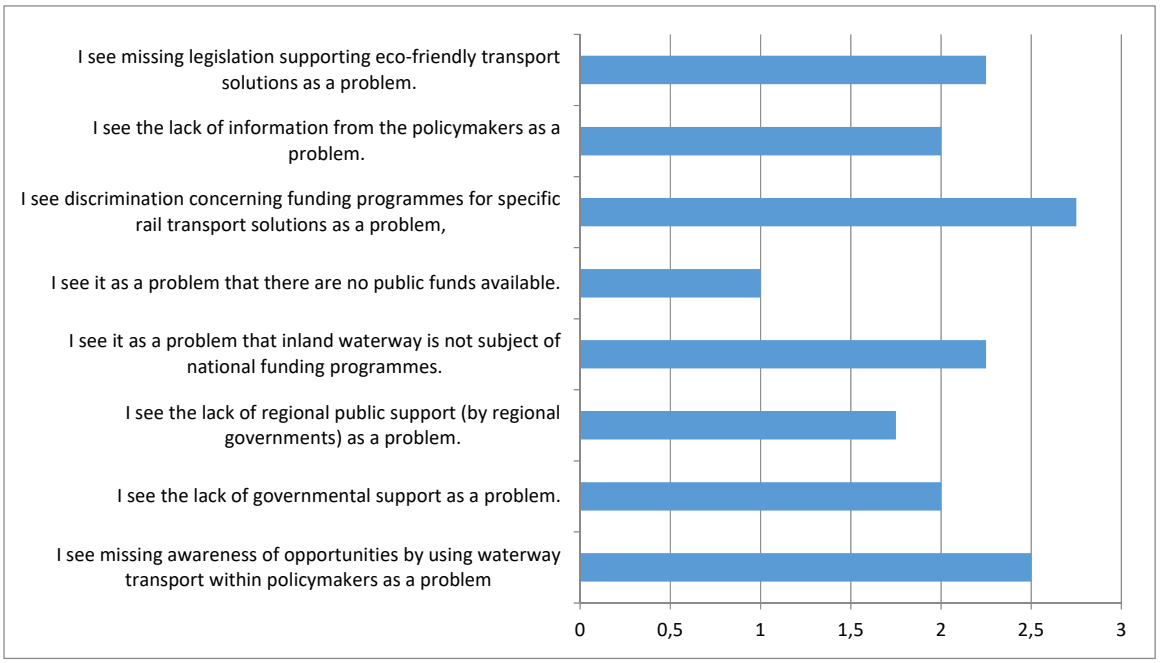

Figure 8. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Discrimination concerning the funding programmes for specific rail transport solutions–the average rating is 2.75;
- Missing awareness of policy makers for opportunities of using waterway transport – the average rating is 2.25.

The **total** average rating for a group of questions about the impact of **(4.1) political/legal** influence on usage of inland waterway transport is **2.26.**

1.1.5. Barriers for inland waterway transport use because of (4.2) environment

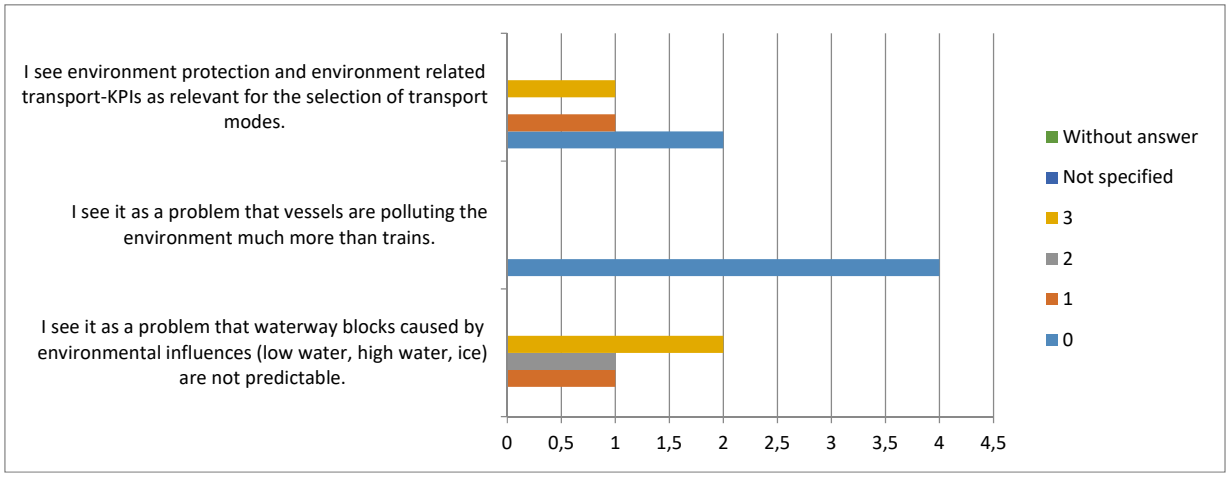

Figure 9. Participant answers (public authority and sectoral agencies) regarding the environment influence on usage of inland waterway transport

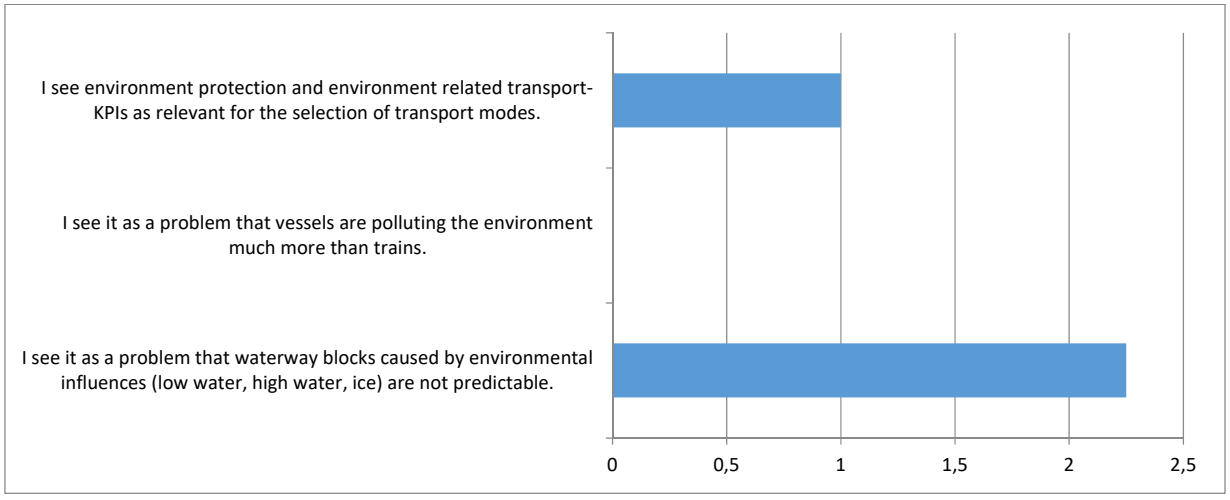

Figure 10. The average rating for each question

Accordingly, the main reason for the not using the inland waterway transport is:

- Hardly predictable waterway blocks, caused by environmental influences (low water, high water, ice) –the average rating is 2.25.

The **total** average rating for a group of questions about the impact of **(4.2) environment** influence on usage of inland waterway transport is **1.08.**

1.1.6. Barriers for inland waterway transport use because of (4.3) economy

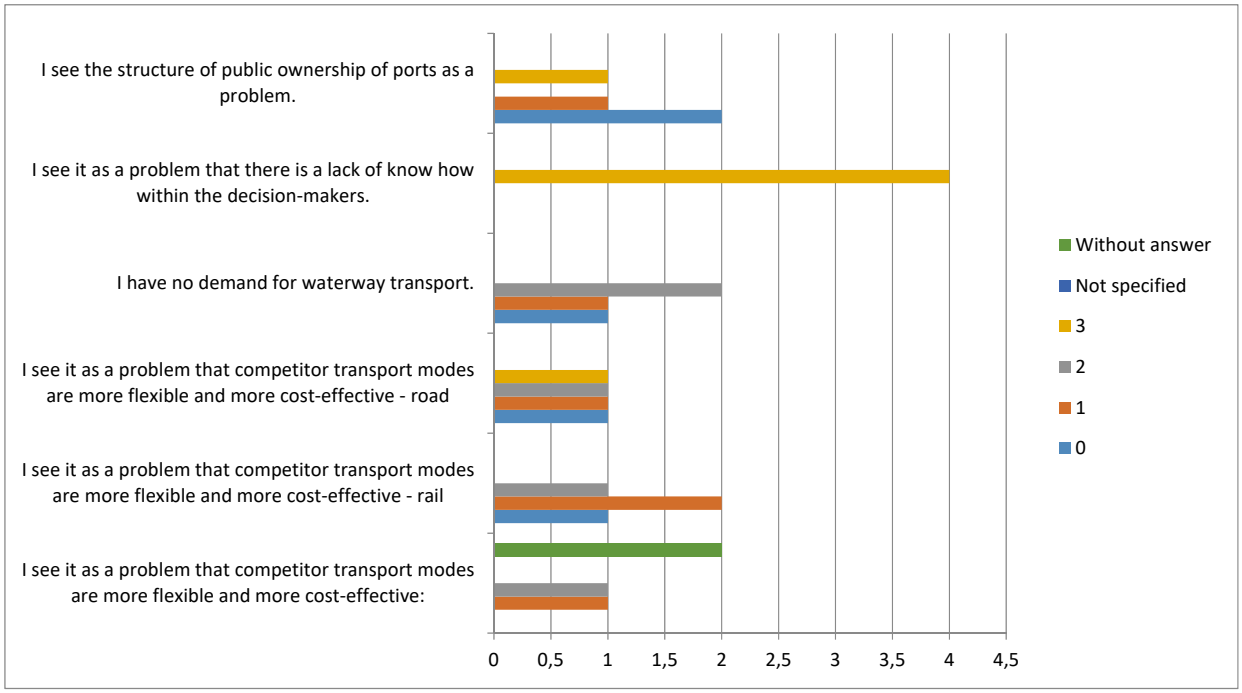

Figure 11. Participant answers (public authority and sectoral agencies) regarding the economy influence on usage of inland waterway transport

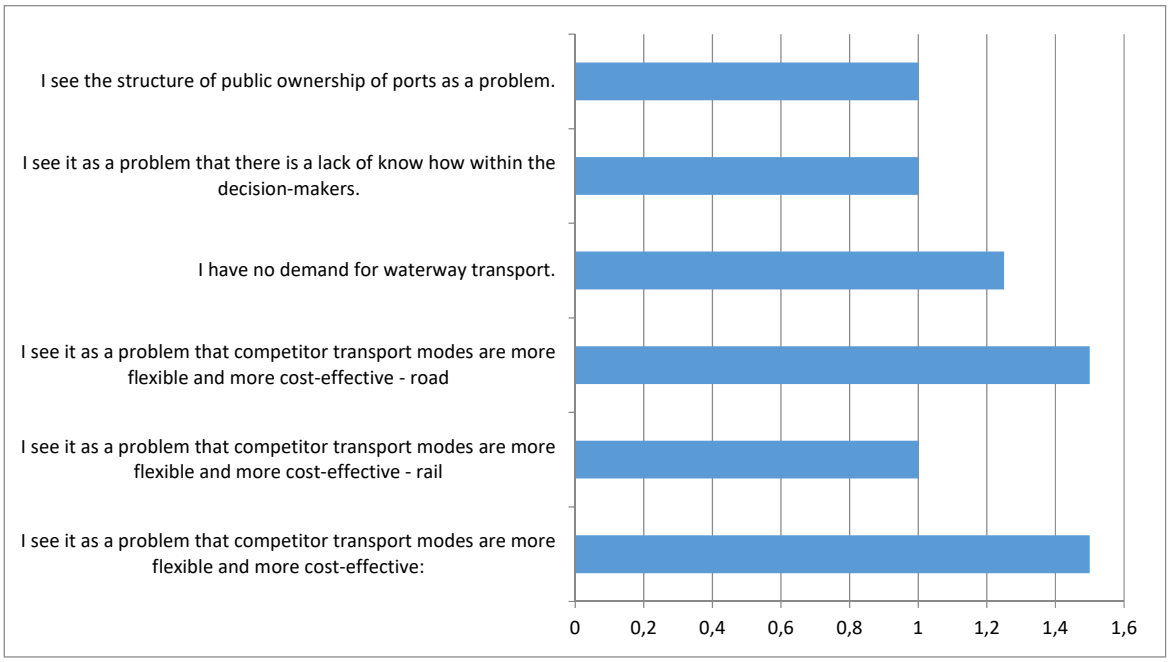

Figure 12. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Competitor transport modes are more flexible and cost-effective–the average rating is 1.50;
- Competitor transport modes are more flexible and cost-effective – road– the average rating is 1.50.

The **total** average rating for a group of questions about the impact of **(4.3) economy** influence on usage of inland waterway transport is **1.55.**

1.1.7. Barriers for inland waterway transport use because of (4.4) technology

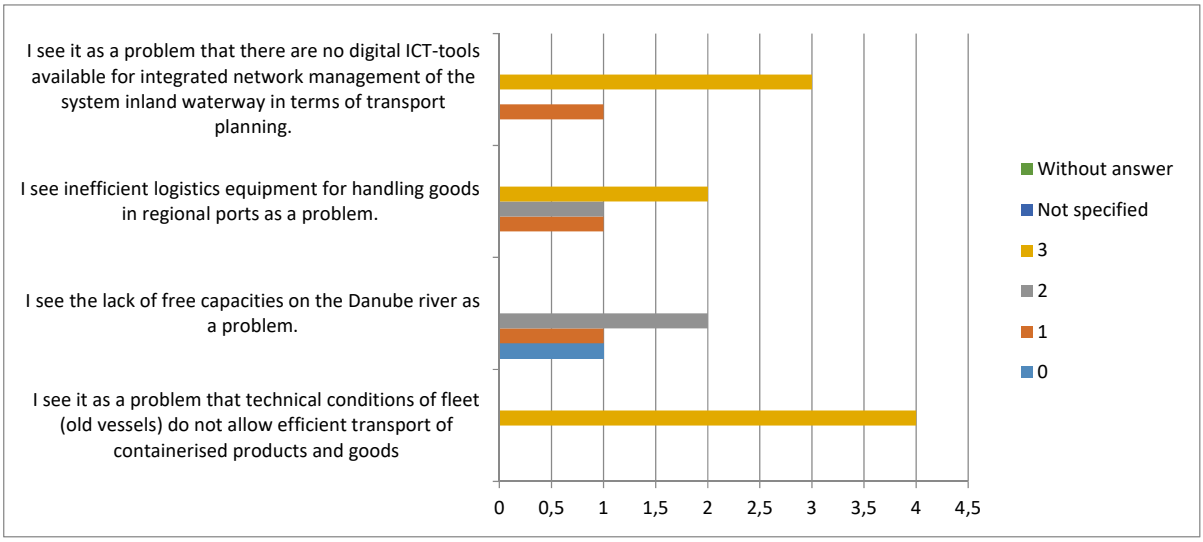

Figure 13. Participant answers (public authority and sectoral agencies) regarding the technology influence on usage of inland waterway transport

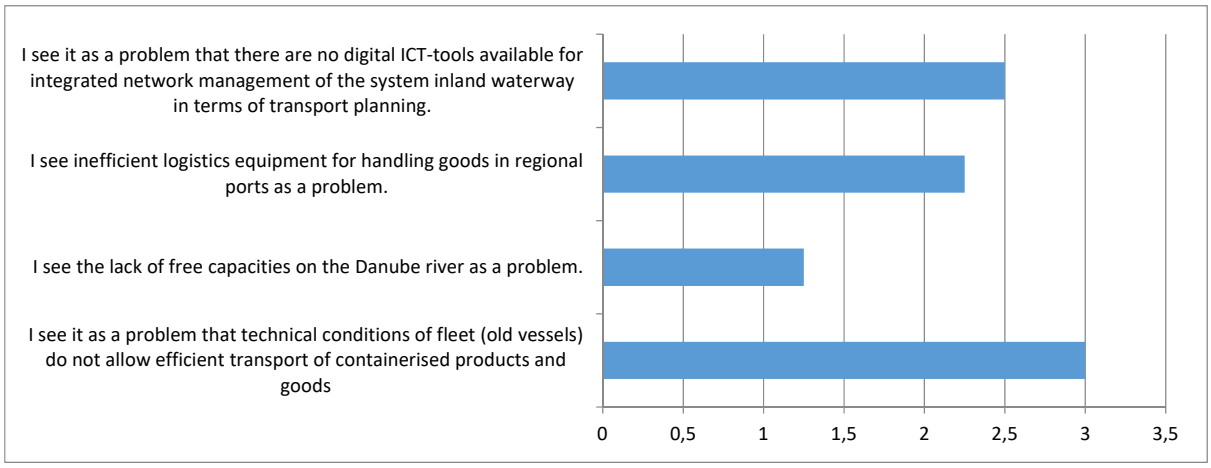

Figure 14. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Technical conditions of fleet (old vessels) do not allow efficient transport of containerised products and goods-theaverage rating is 3.00;
- There are no digital ICT-tools available for integrated network management of the system inland waterway in terms of transport planning – the average rating is 2.50.

The **total** average rating for a group of questions about the impact of **(4.4) technology** influence on usage of inland waterway transport is **2.25.**

1.2. Infrastructure service providers and logistics service provider

The total number of respondents in this group is 9.

Structure of answers and average ratings of questions from each group are shown in the figures 15 to 28.

1.2.1. Barriers for inland waterway transport use because of (1) goods

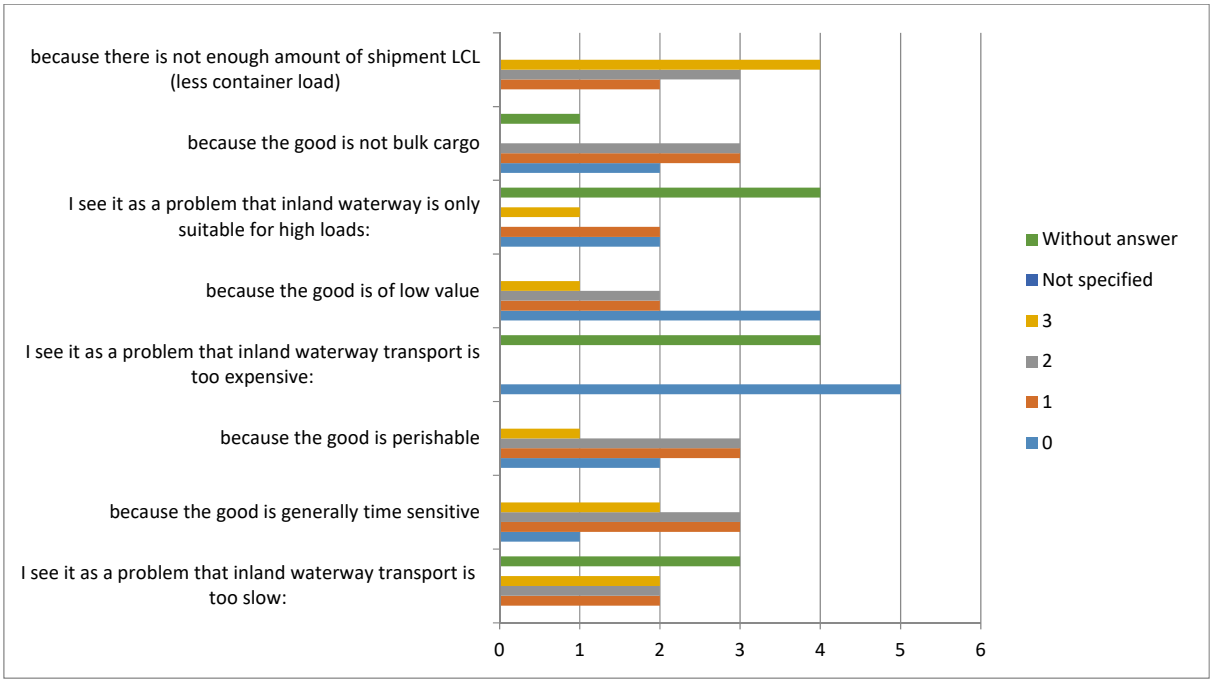

Figure 15. Participant answers (infrastructure service providers and logistics service provider) regarding the influence of goods on usage of inland waterway transport

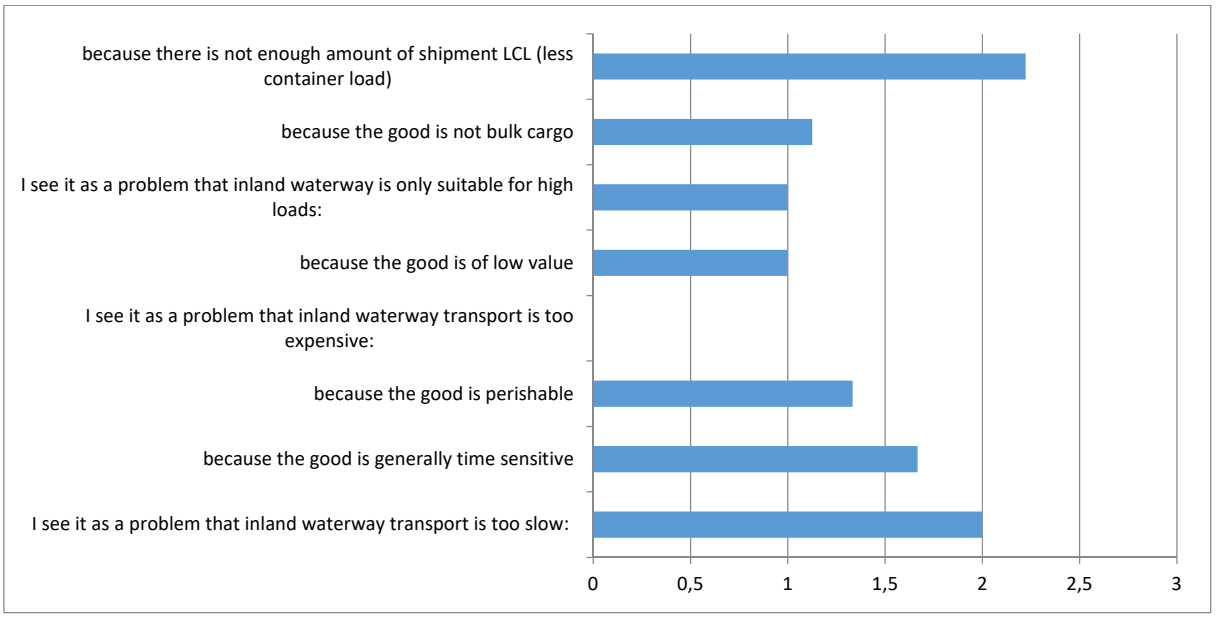

Figure 16. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- There is not enough amount of shipment LCL (less container load) – the average rating is 2.22;
- The inland waterway transport is too slow – the average rating is 2.00.

The **total** average rating for a group of questions regarding the impact of **(1) goods** influence on usage of inland waterway transport is **1.37.**

1.2.2. Barriers for inland waterway transport use because of (2) logistics

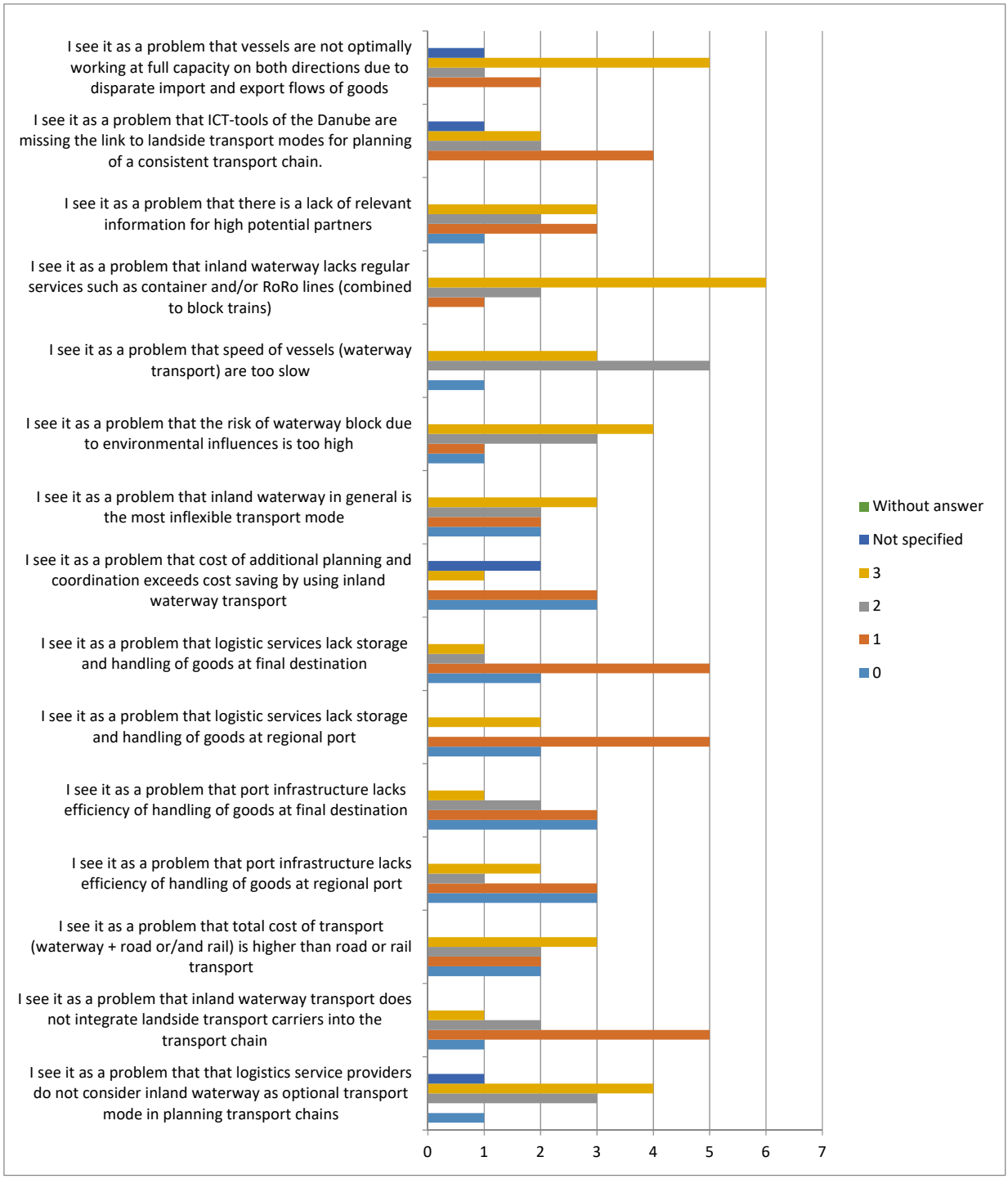

Figure 17. Participant answers (infrastructure service providers and logistics service provider) regarding the influence of logisticson usage of inland waterway transport

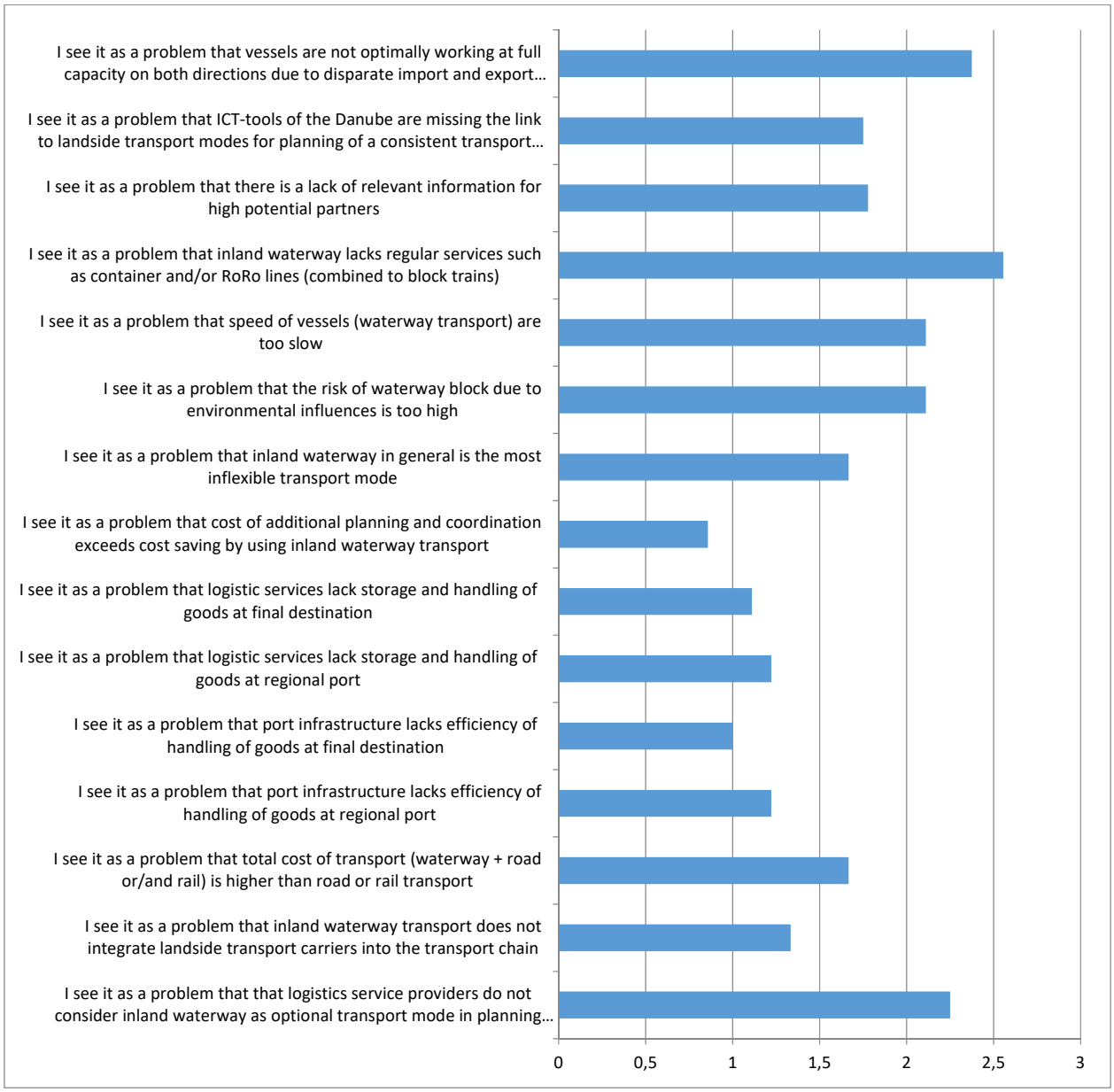

Figure 18. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- That inland waterway lacks regular services such as container and/or RoRo lines (combined to block trains) - theaverage rating is 2.55;
- That vessels are not optimally working at full capacity on both directions due to disparate import and export flows of goods - theaverage rating is 2.38.

The **total** average rating for a group of questions about the impact of **(2) logistics** influence on usage of inland waterway transport is **1.68.**

1.2.3. Barriers for inland waterway transport use because of (3) infrastructure

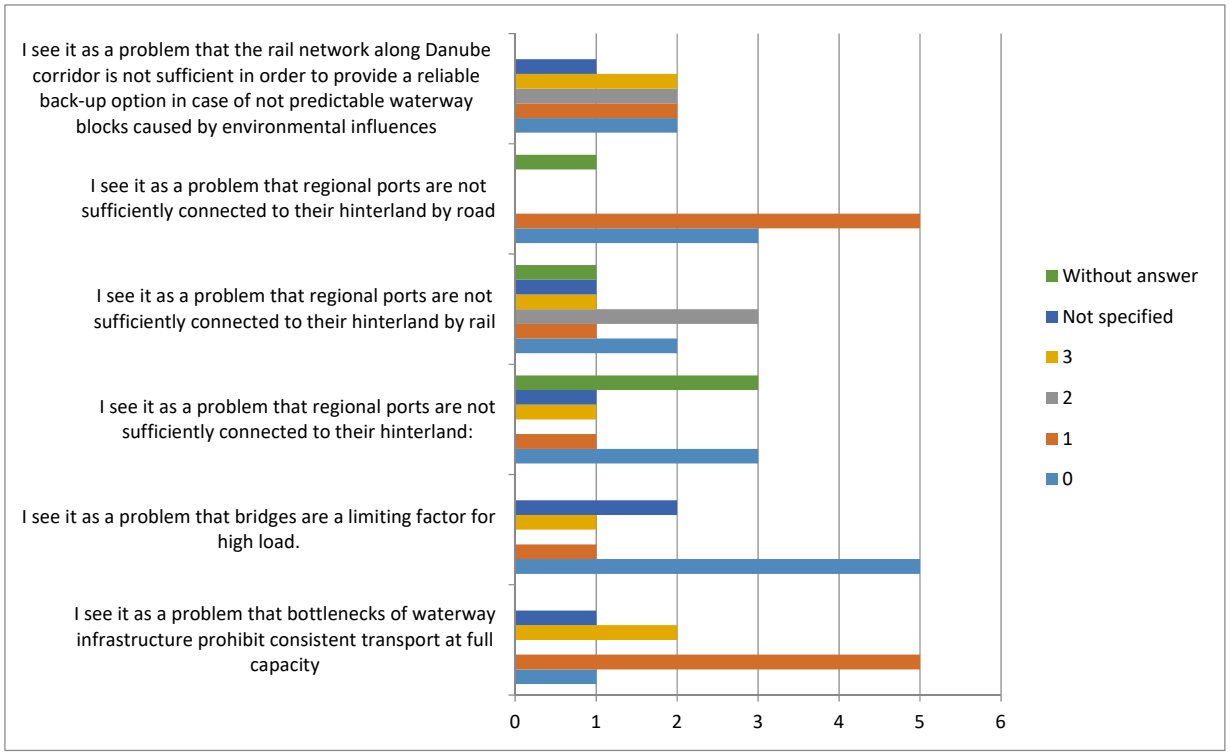

Figure 19. Participant answers(infrastructure service providers and logistics service provider) regarding the influence of infrastructure development on usage of inland waterway transport

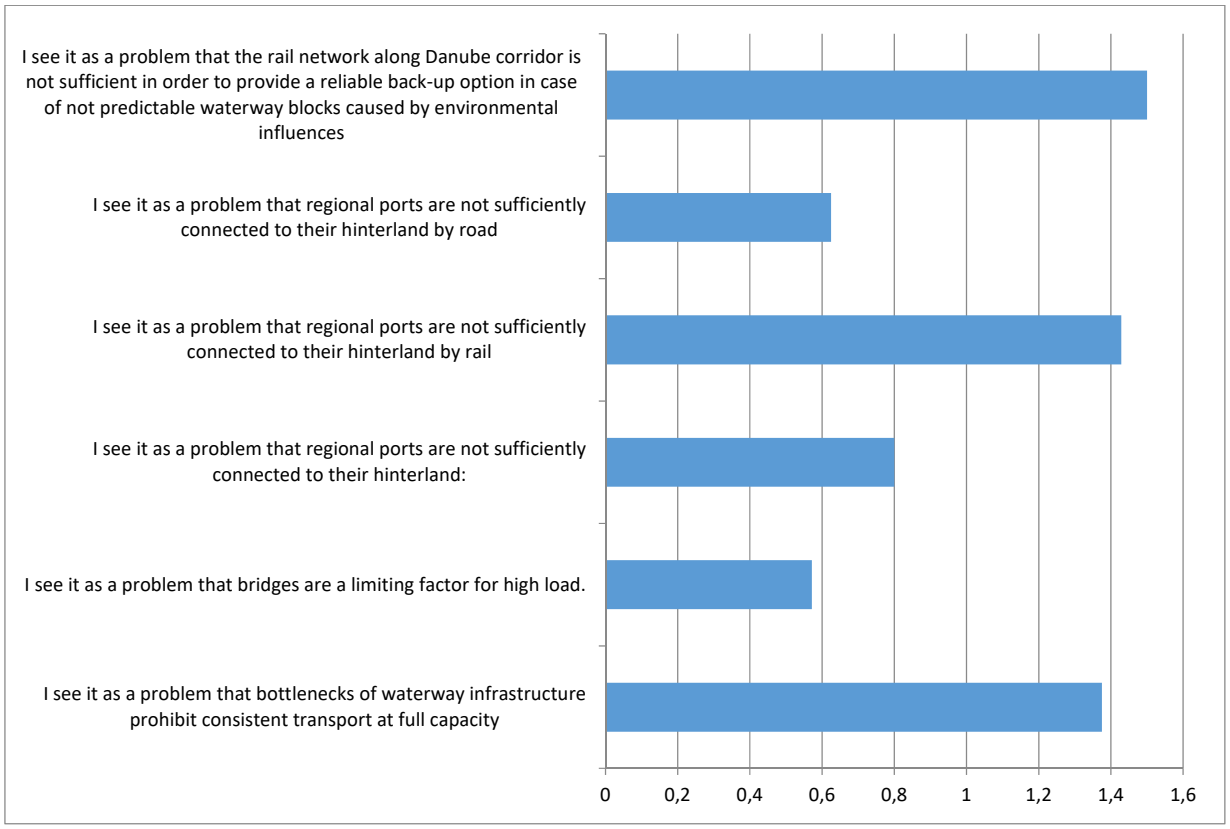

Figure 20. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- That the rail network along Danube corridor is not sufficient in order to provide a reliable back-up option in case of not predictable waterway blocks caused by environmental influences – the average rating is 1.50;
- That regional ports are not sufficiently connected to their hinterland by rail– the average rating is 1.43.

The **total** average rating for a group of questions about the impact of **(3) infrastructure** development influence on usage of inland waterway transport is **1.07.**

1.2.4. Barriers for inland waterway transport use because of (4.1) political/legal

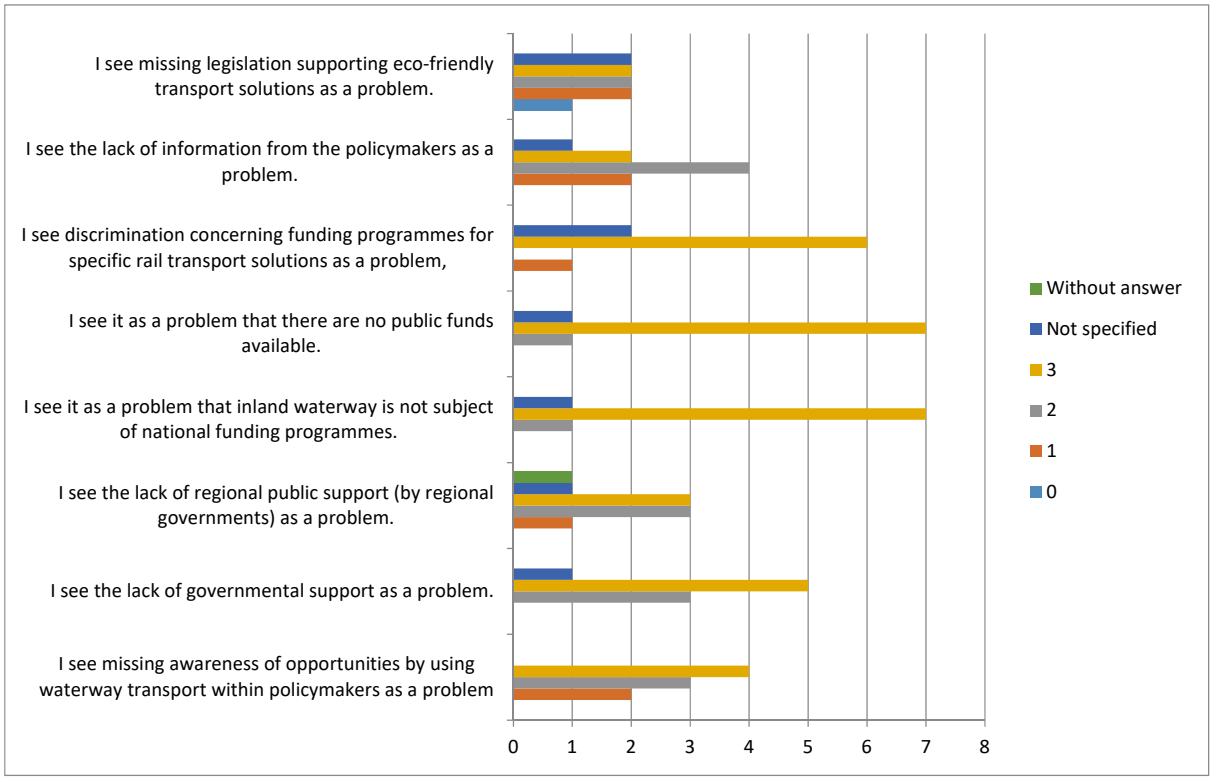

Figure 21. Participant answers (infrastructure service providers and logistics service provider)regarding the influence of policy making on usage of inland waterway transport

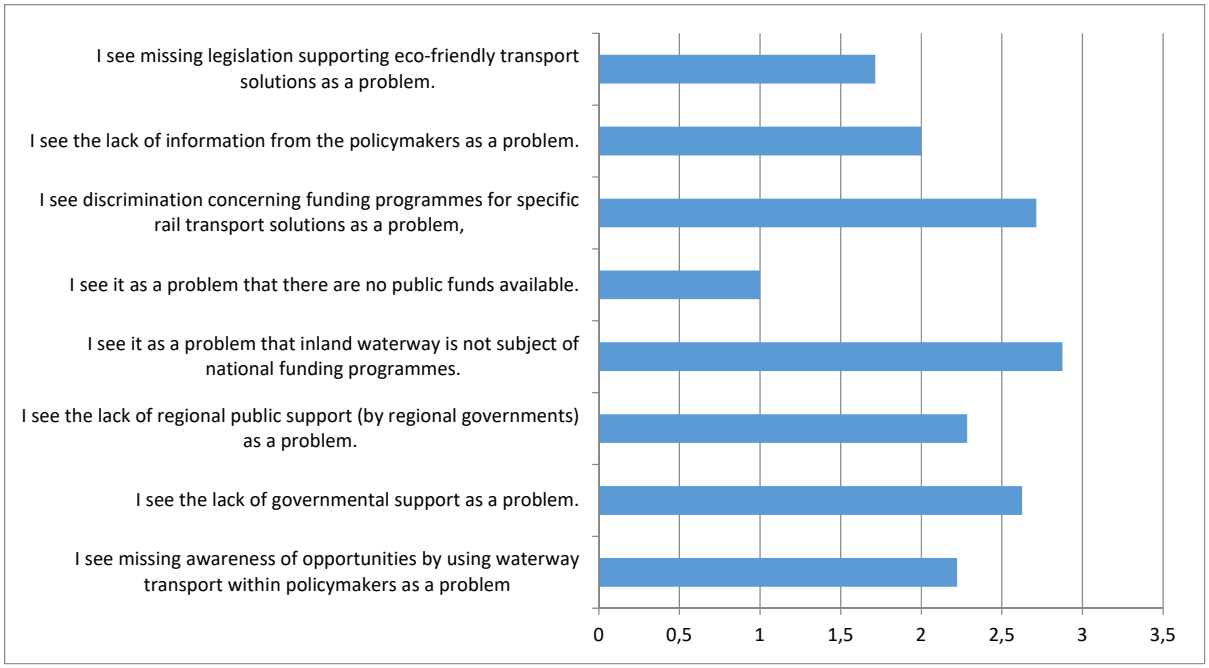

Figure 22. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- that inland waterway is not subject of national funding programmes - – the average rating is 2.88;
- discrimination concerning the funding programmes for specific rail transport solutions– the average rating is 2.71;
- the lack of governmental support– the average rating is 2.63.

The **total** average rating for a group of questions about the impact of **(4.1) political/legal** influence on usage of inland waterway transport is **2.42.**

1.2.5. Barriers for inland waterway transport use because of (4.2) environment

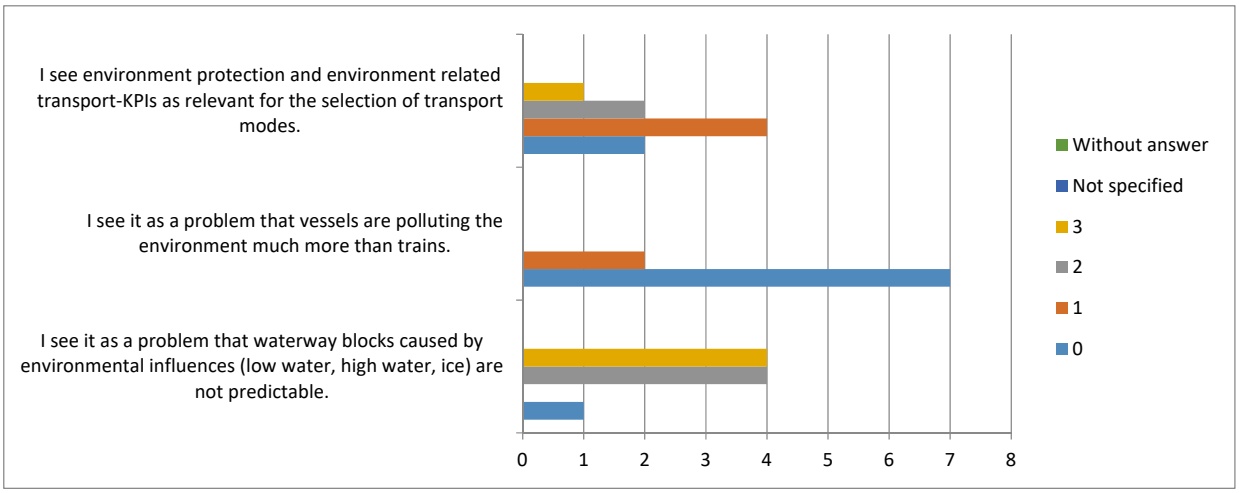

Figure 23. Participant answers (infrastructure service providers and logistics service provider) regarding the environment influence on usage of inland waterway transport

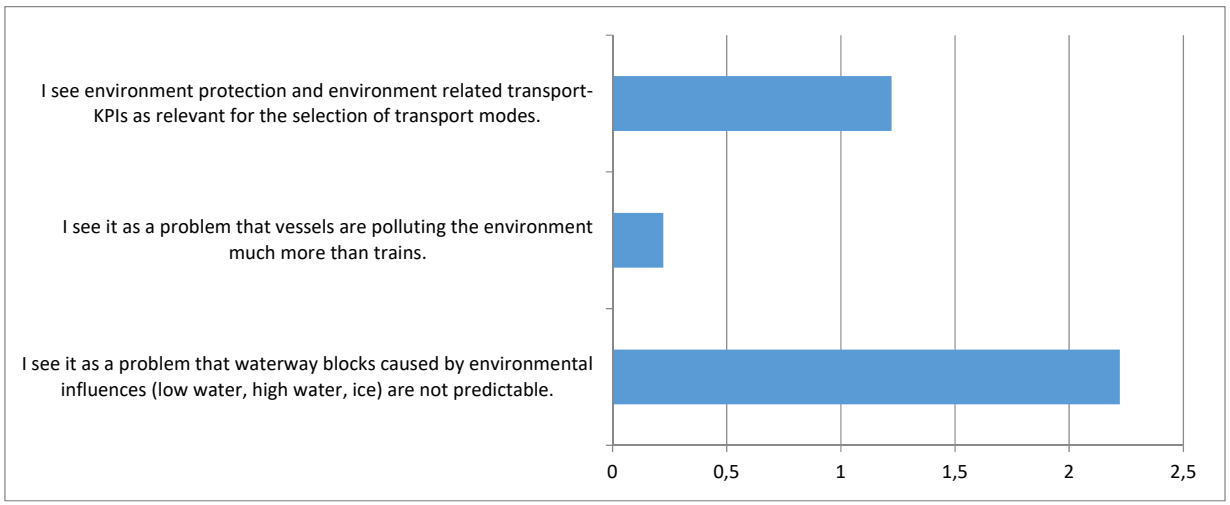

Figure 24. The average rating for each question

Accordingly, the main reason for the not using the inland waterway transport is:

- Hardly predictable waterway blocks, caused by environmental influences (low water, high water, ice) –the average rating is 2.22.

The **total** average rating for a group of questions about the impact of **(4.2) environment** influence on usage of inland waterway transport is **1.22.**

1.2.6. Barriers for inland waterway transport use because of (4.3) economy

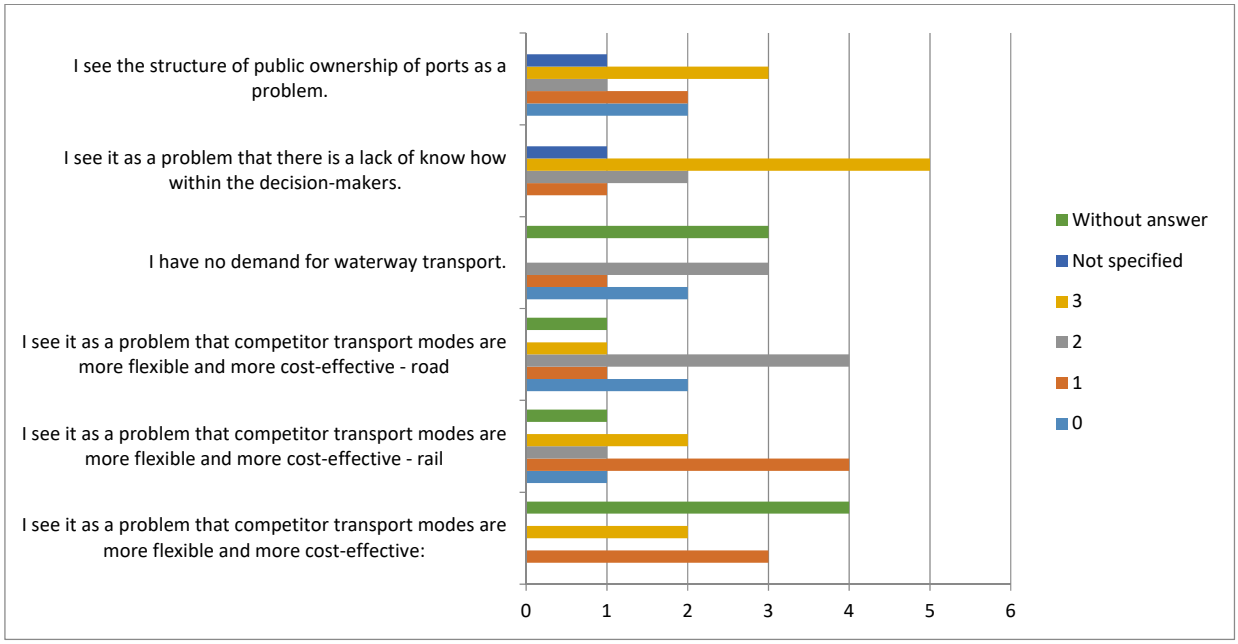

Figure 25. Participant answers (infrastructure service providers and logistics service provider) regarding the economy influence on usage of inland waterway transport

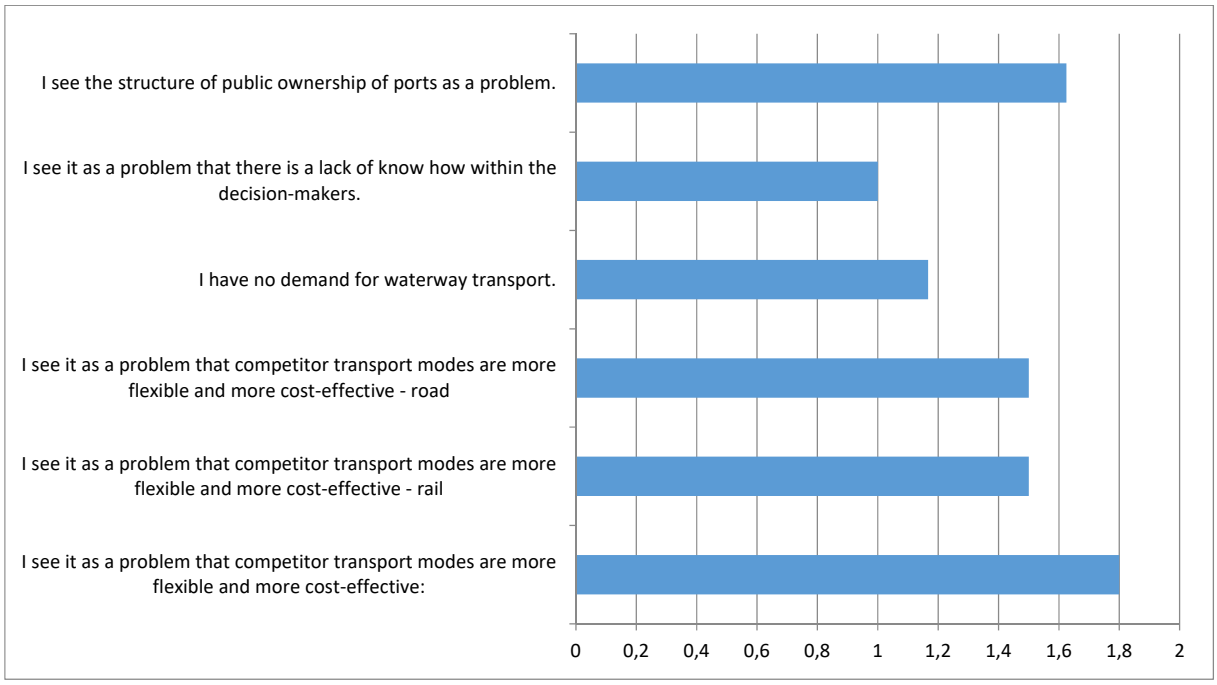

Figure 26. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Competitor transport modes are more flexible and cost-effective – rail – the average rating is 1.80;
- The structure of public ownership of ports – the average rating is 1.63.

The **total** average rating for a group of questions about the impact of **(4.3) economy** influence on usage of inland waterway transport is **1.70.**

1.2.7. Barriers for inland waterway transport use because of (4.4) technology

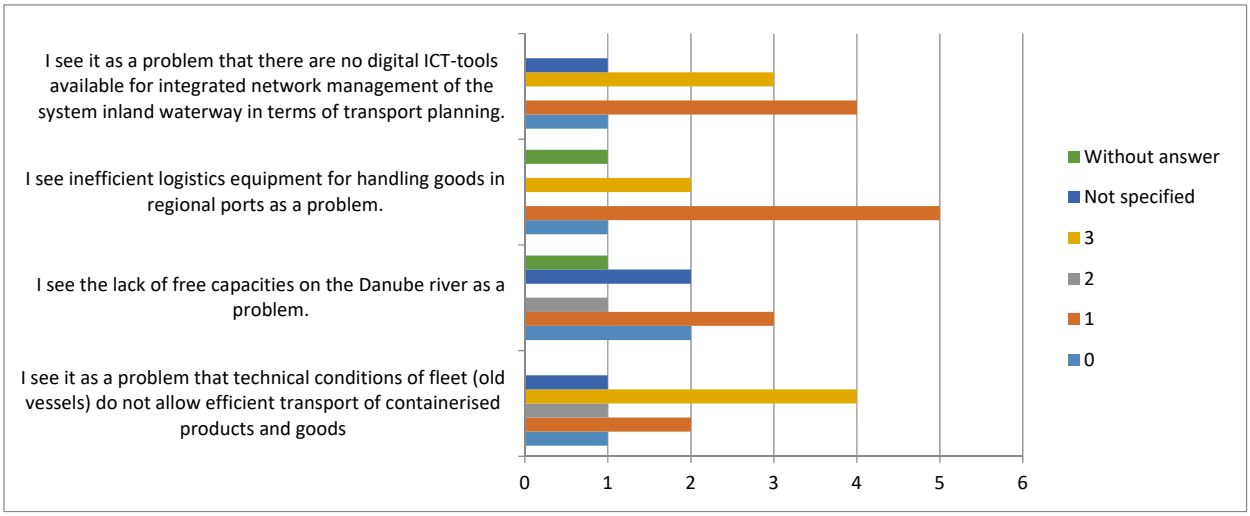

Figure 27. Participant answers (infrastructure service providers and logistics service provider) regarding the technology influence on usage of inland waterway transport

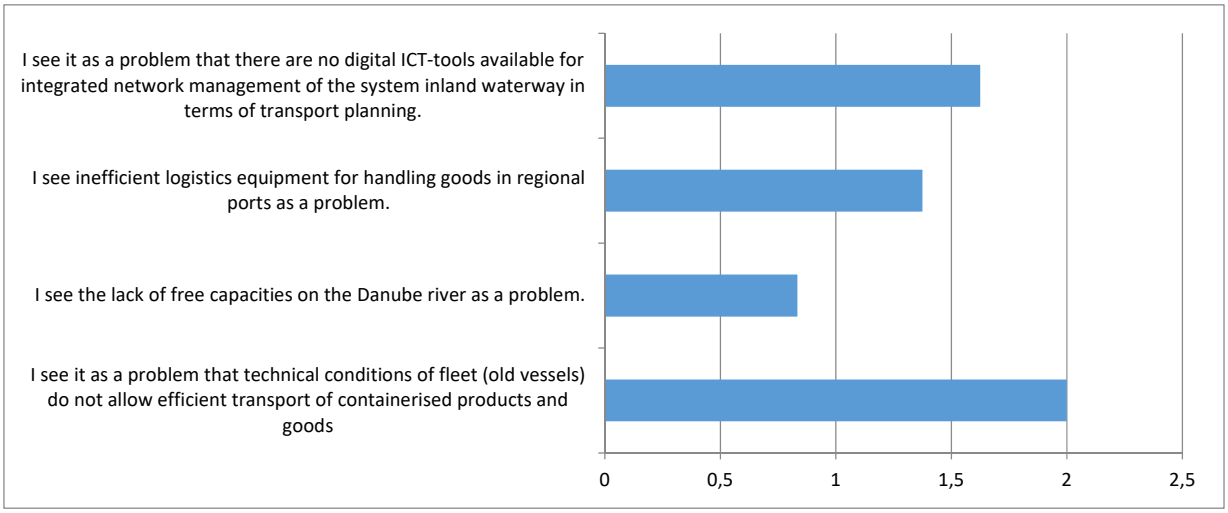

Figure 28. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Technical conditions of fleet (old vessels) do not allow efficient transport of containerised products and goods-theaverage rating is 2.00;
- There are no digital ICT-tools available for integrated network management of the system inland waterway in terms of transport planning – the average rating is 1.63.

The **total** average rating for a group of questions about the impact of **(4.4) technology** influence on usage of inland waterway transport is **1.50.**

1.3. Industrial and trading companies

The total number of respondents in this group is 4.

Structure of answers and average ratings of questions from each group are shown in the figures 29 to 42.

1.3.1. Barriers for inland waterway transport use because of (1) goods

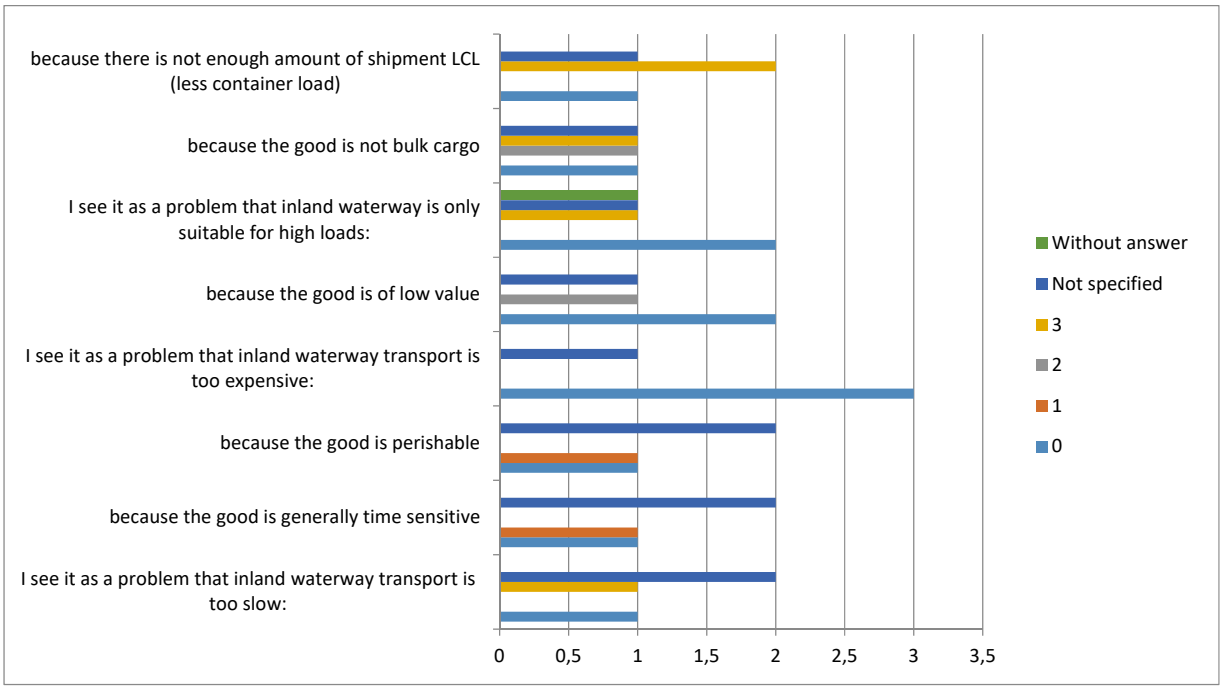

Figure 29. Participant answers (industrial and trading companies) regarding the influence of goods on usage of inland waterway transport

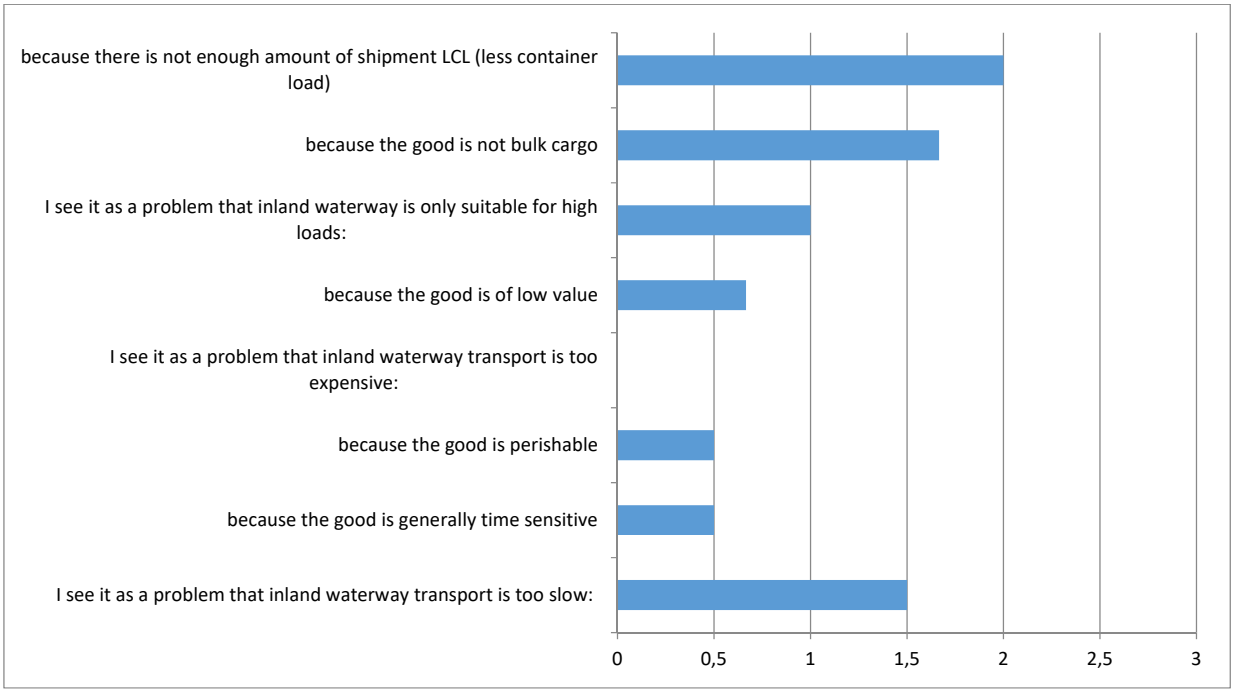

Figure 30. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- There is not enough amount of shipment LCL (less container load) – the average rating is 2.00;
- The good is not bulk cargo - the average rating is 1.67;
- The inland waterway transport is too slow– the average rating is 1.50.

The **total** average rating for a group of questions regarding the impact of **(1) goods** influence on usage of inland waterway transport is **1.00.**

1.3.2. Barriers for inland waterway transport use because of (2) logistics

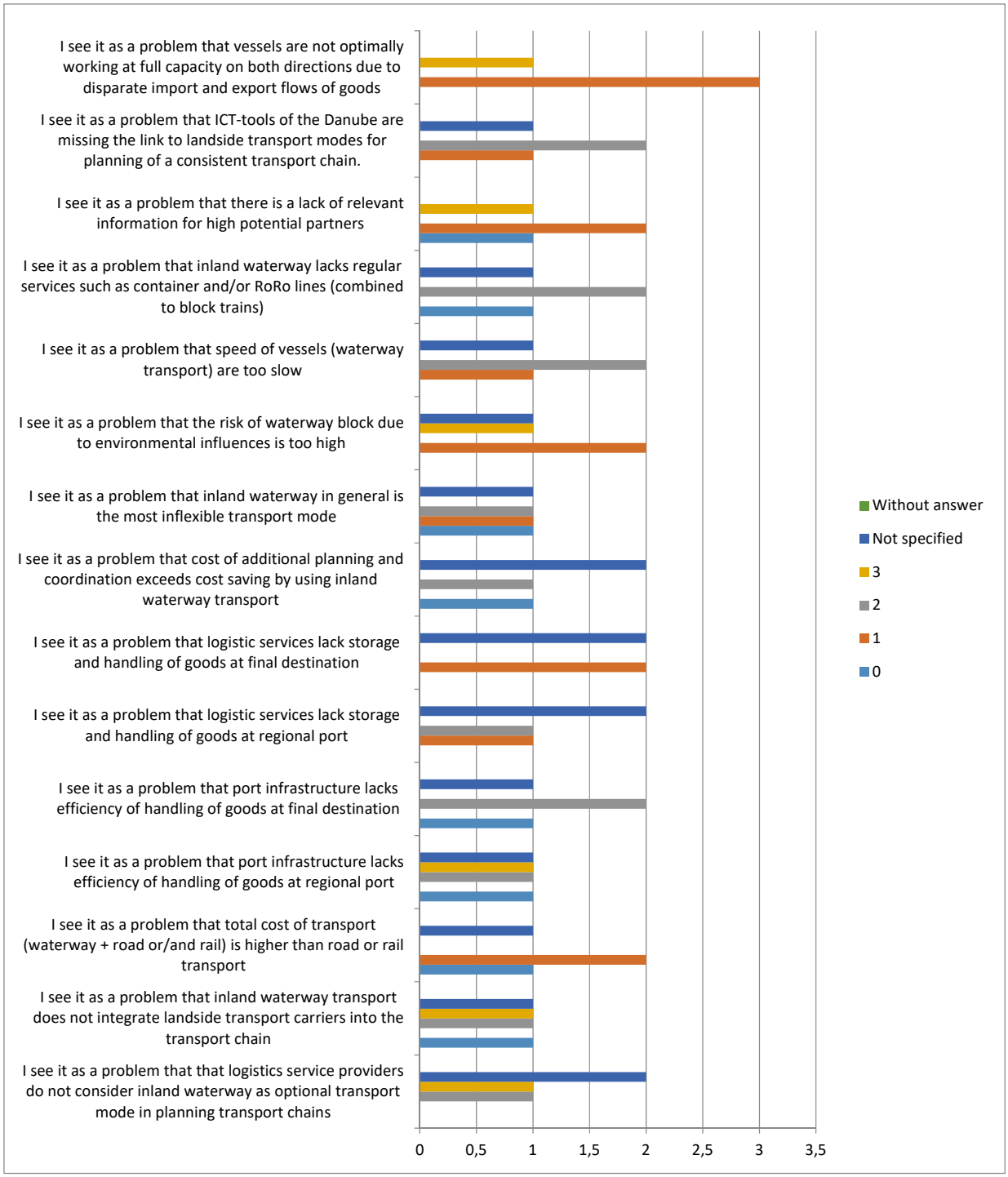

Figure 31. Participant answers (industrial and trading companies) regarding the influence of logistic development on usage of inland waterway transport

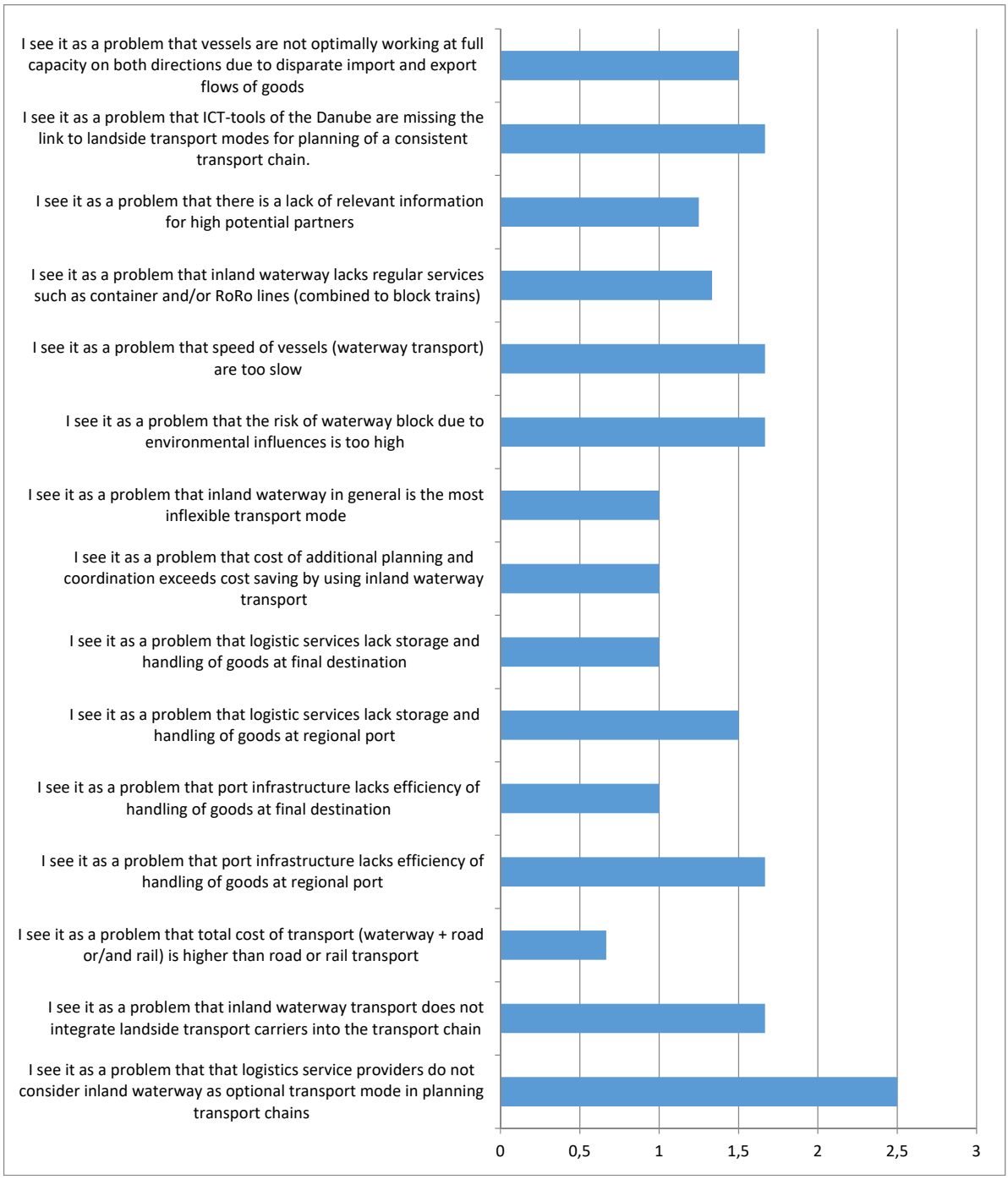

Figure 32. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- That logistics service providers do not consider inland waterway as optional transport mode in planning transport chains - theaverage rating is 2.50;

- That inland waterway transport does not integrate landside transport carriers into the transport chain - theaverage rating is 1.67;
- That port infrastructure lacks efficiency of handling of goods at regional port - theaverage rating is 1.67;
- That the risk of waterway block due to environmental influences is too high - theaverage rating is 1.67;
- That speed of vessels (waterway transport) are too slow - theaverage rating is 1.67;
- That ICT-tools of the Danube are missing the link to landside transport modes for planning of a consistent transport chain -theaverage rating is 1.67.

The **total** average rating for a group of questions about the impact of **(2) logistics** influence on usage of inland waterway transport is **1.42.**

1.3.3. Barriers for inland waterway transport use because of (3) infrastructure

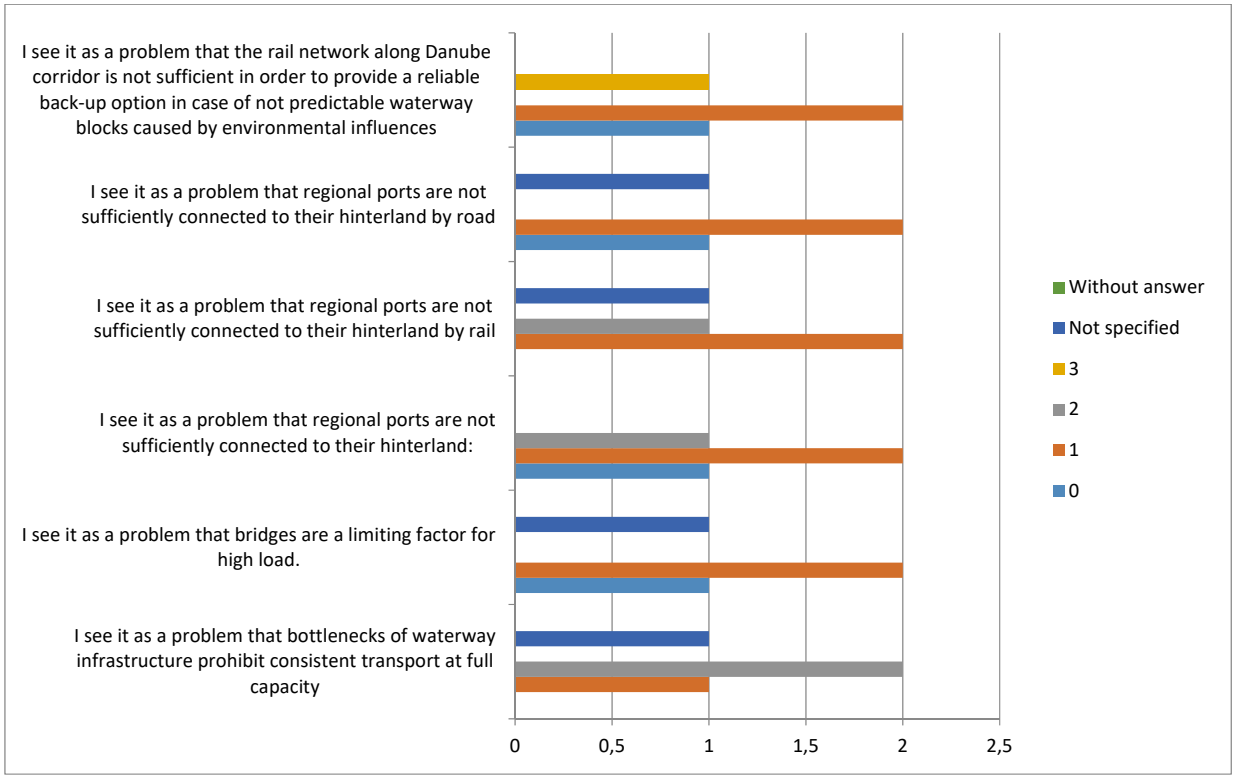

Figure 33. Participant answers (industrial and trading companies) regarding the influence of infrastructure development on usage of inland waterway transport

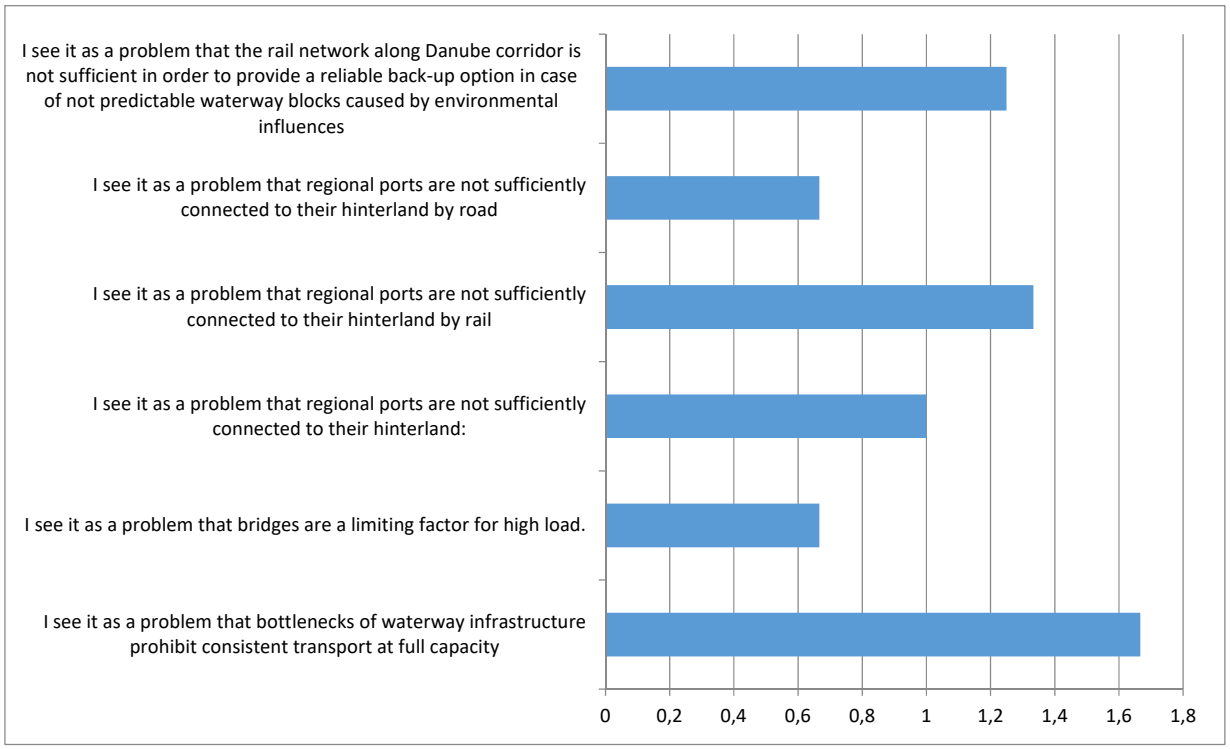

Figure 34. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Bottlenecks of waterway infrastructure that prohibit consistent transport at full capacity – the average rating is 1.67;
- That regional ports are not sufficiently connected to their hinterland by rail– the average rating is 1.33.

The **total** average rating for a group of questions about the impact of **(3) infrastructure** developmentinfluence on usage of inland waterway transport is **1.10.**

1.3.4. Barriers for inland waterway transport use because of (4.1) political/legal

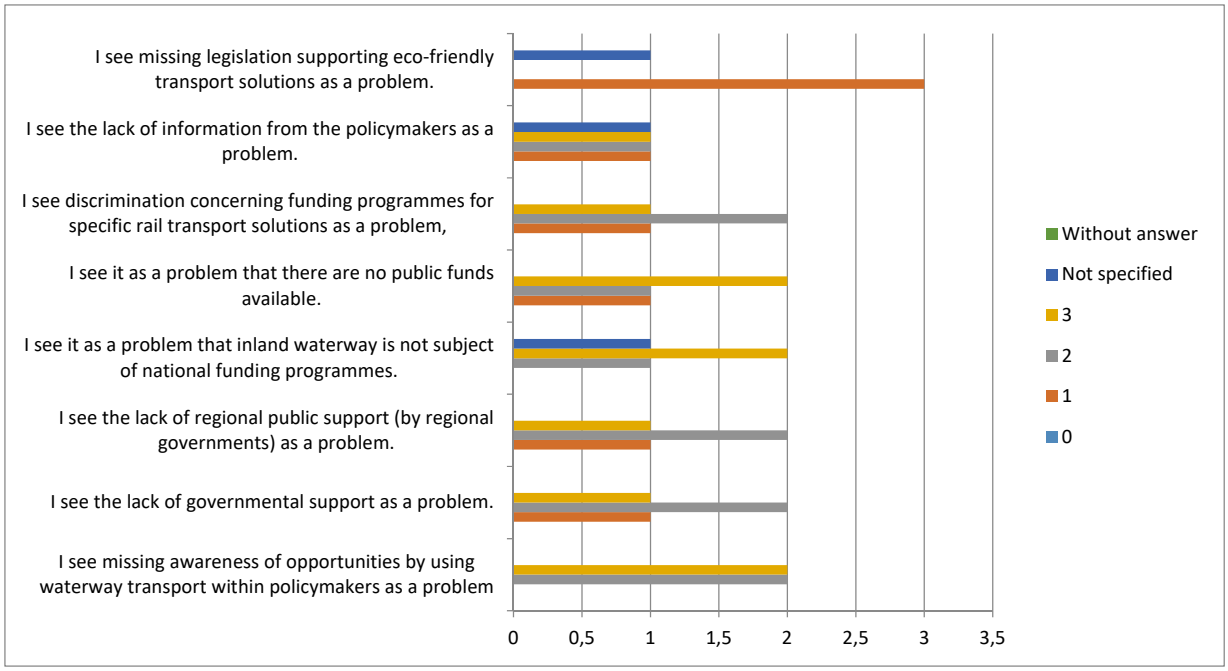

Figure 35. Participant answers (industrial and trading companies) regarding the influence of policy making on usage of inland waterway transport

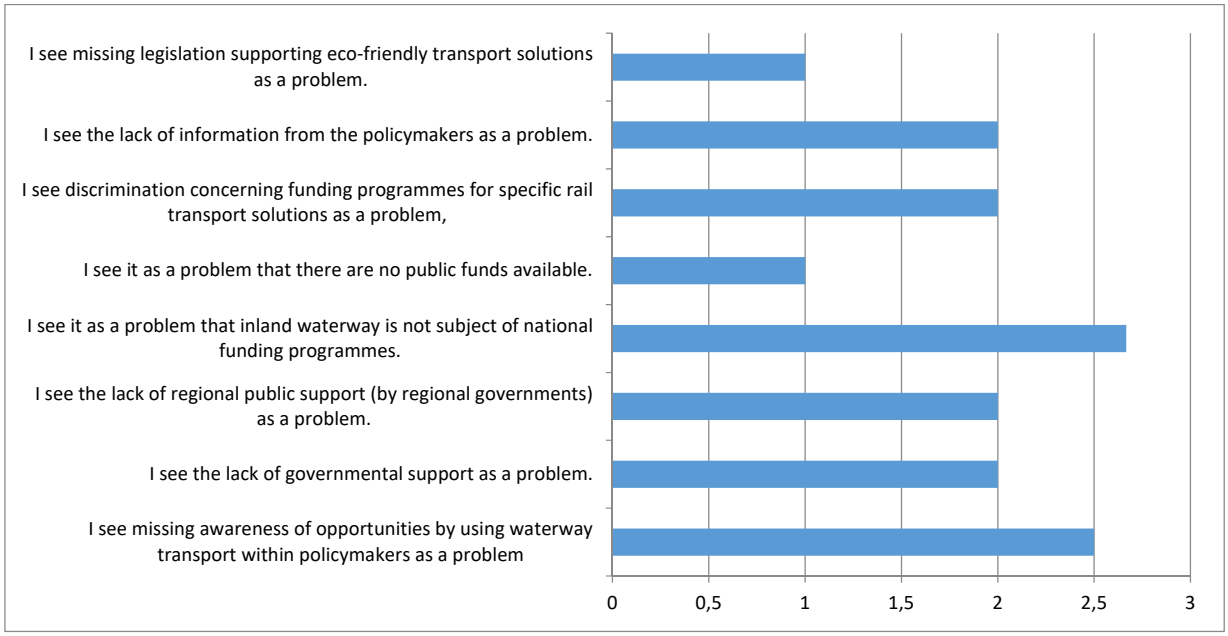

Figure 36. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- That inland waterway is not subject of national funding programmes - – the average rating is2.67;

- Missing awareness of policy makers for opportunities of using waterway transport – the average rating is 2.50.

The **total** average rating for a group of questions about the impact of **(4.1) political/legal** influence on usage of inland waterway transport is **2.07.**

1.3.5. Barriers for inland waterway transport use because of (4.2) environment

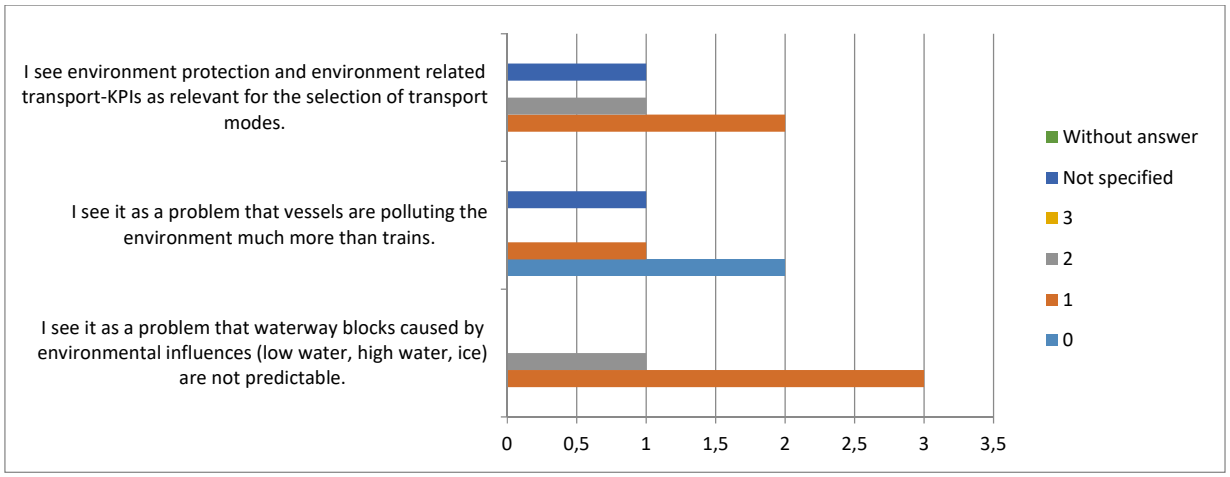

Figure 37. Participant answers (industrial and trading companies) regarding the environment influence on usage of inland waterway transport

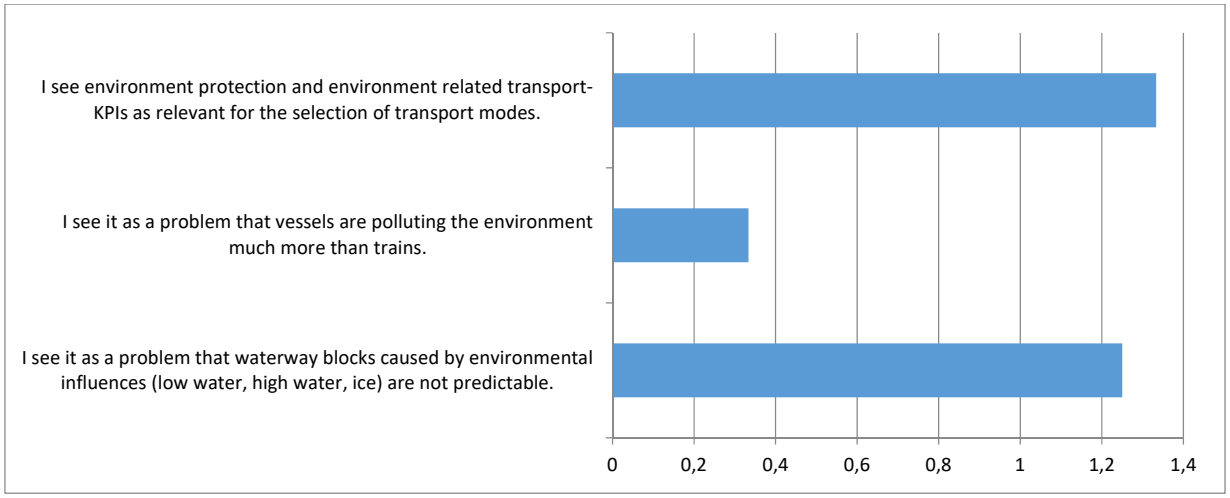

Figure 38. The average rating for each question

Accordingly, the main reason for the not using the inland waterway transport are:

- Environment protection and environment related transport-KPIs as relevant for the selection of transport modes – the average rating is 1.33;
- Waterway blocks, caused by environmental influences (low water, high water, ice) –the average rating is 1.25.

The **total** average rating for a group of questions about the impact of **(4.2) environment** influence on usage of inland waterway transport is **1.00.**

1.3.6. Barriers for inland waterway transport use because of (4.3) economy

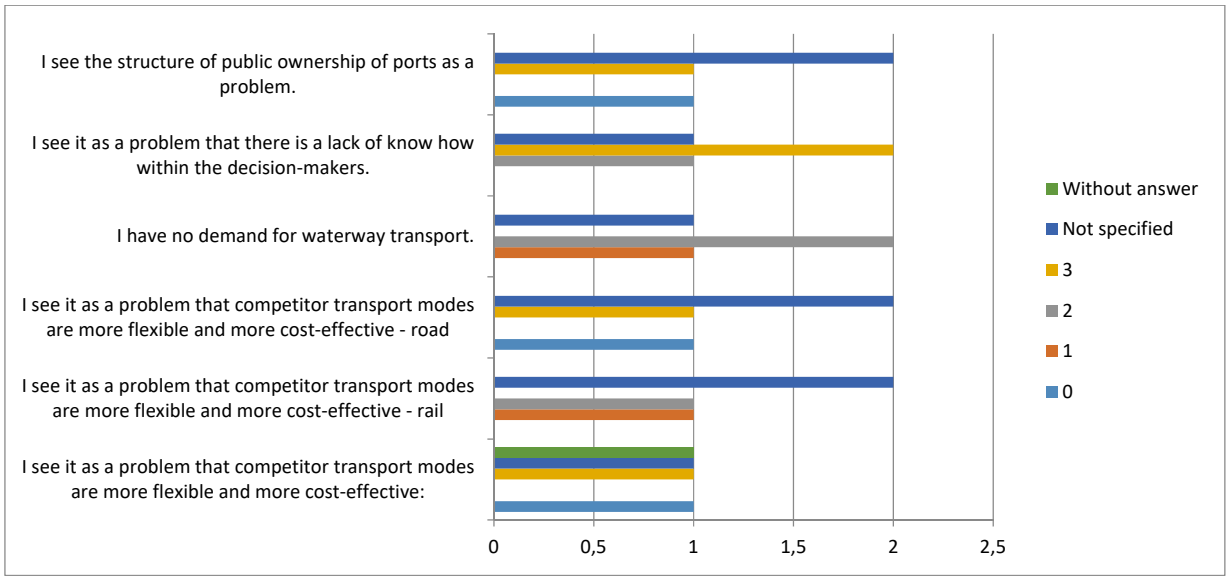

Figure 39. Participant answers (industrial and trading companies) regarding the economy influence on usage of inland waterway transport

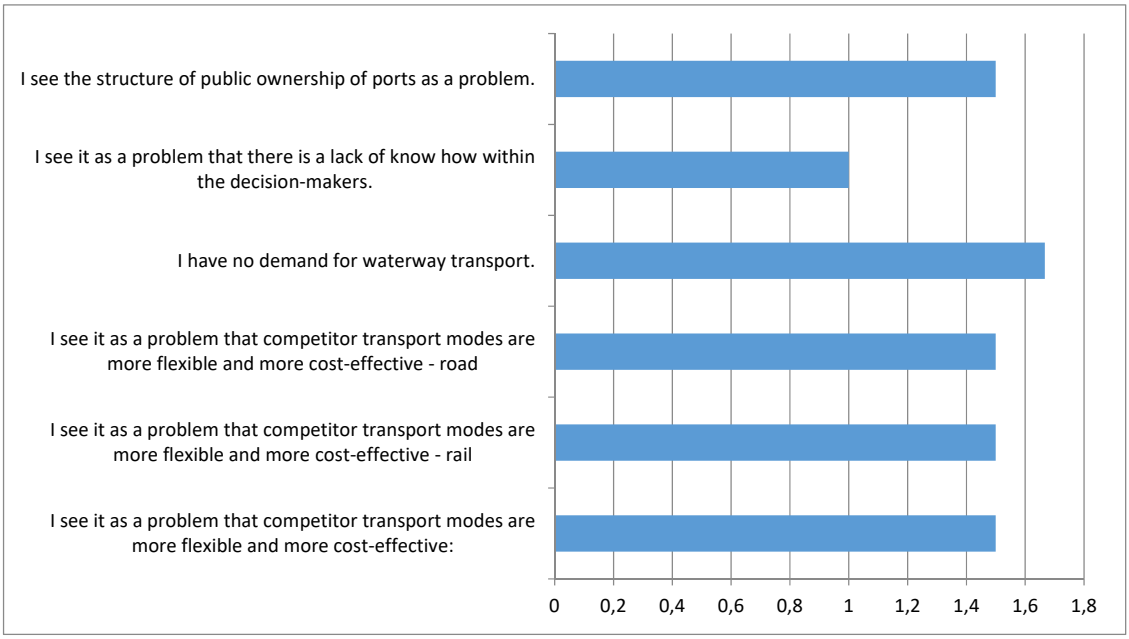

Figure 40. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport is:

- There are not demand for waterway transport - the average rating is 1.67.

The **total** average rating for a group of questions about the impact of **(4.3) economy** influence on usage of inland waterway transport is **1.79.**

1.3.7. Barriers for inland waterway transport use because of (4.4) technology

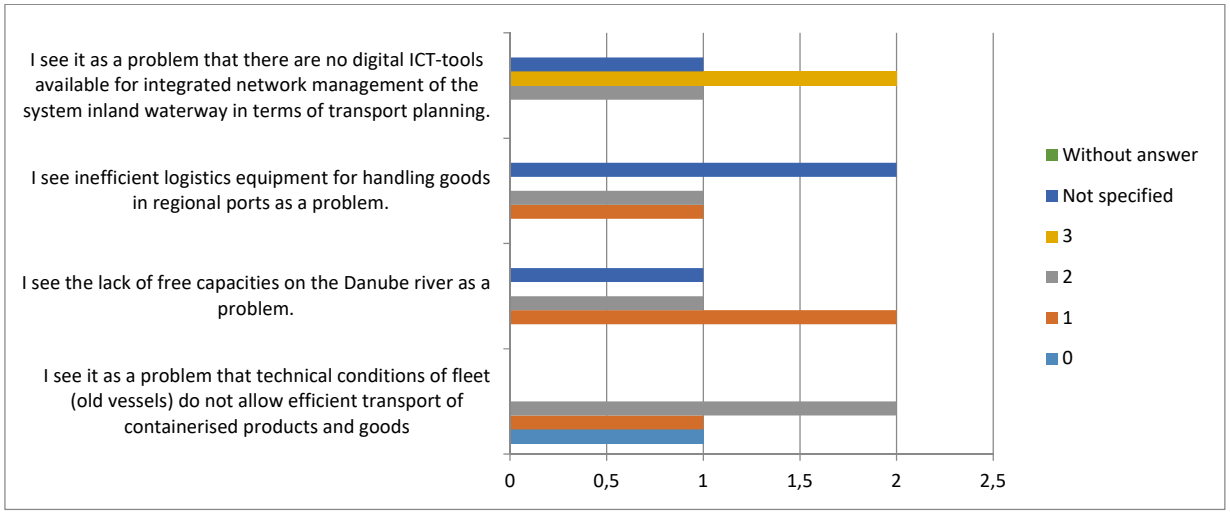

Figure 41. Participant answers (industrial and trading companies) regarding the technology influence on usage of inland waterway transport

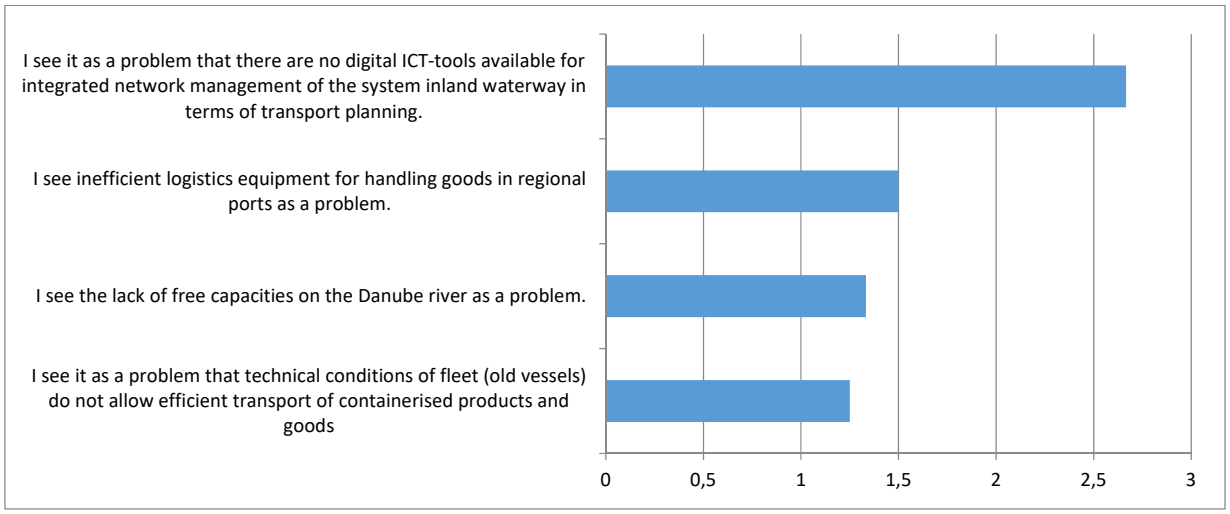

Figure 42. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport is:

- There are no digital ICT-tools available for integrated network management of the system inland waterway in terms of transport planning – the average rating is 2.67.

The **total** average rating for a group of questions about the impact of **(4.4) technology** influence on usage of inland waterway transport is **1.67.**

1.4. R&D/University

The total number of respondents in this group is 4.

Structure of answers and average ratings of questions from each group are shown in the figures 43 to 56.

1.4.1. Barriers for inland waterway transport use because of (1) goods

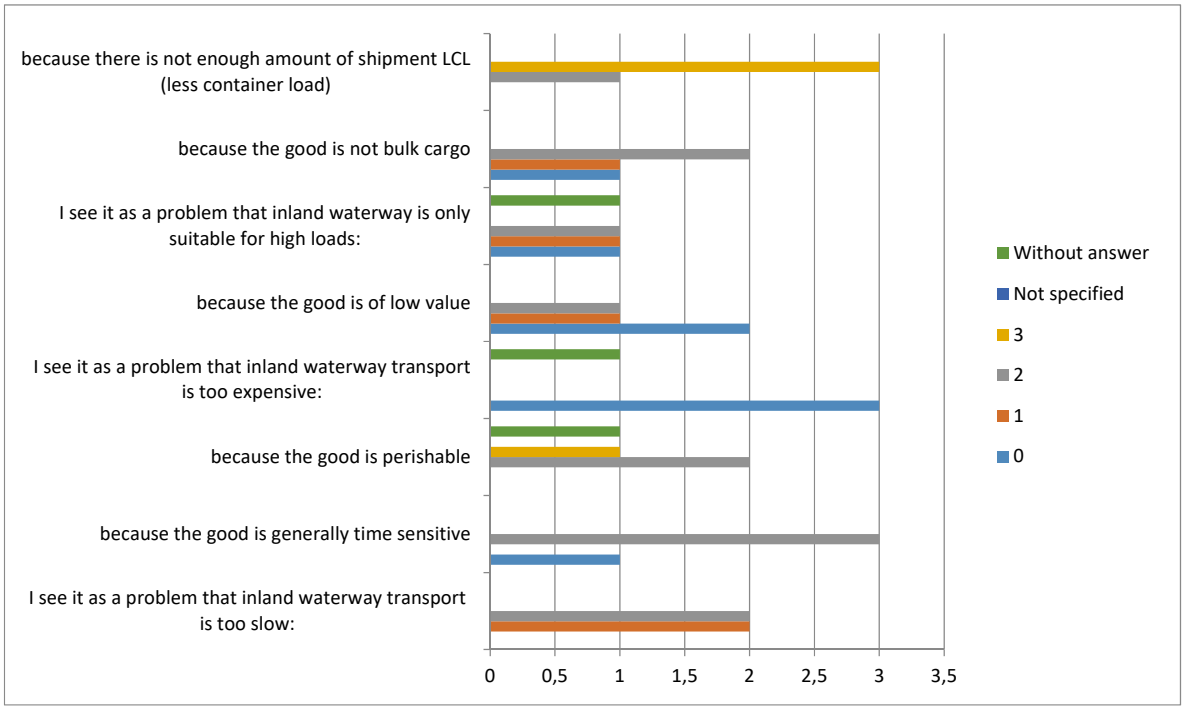

Figure 43. Participant answers (R&D/university) regarding the influence of goods on usage of inland waterway transport

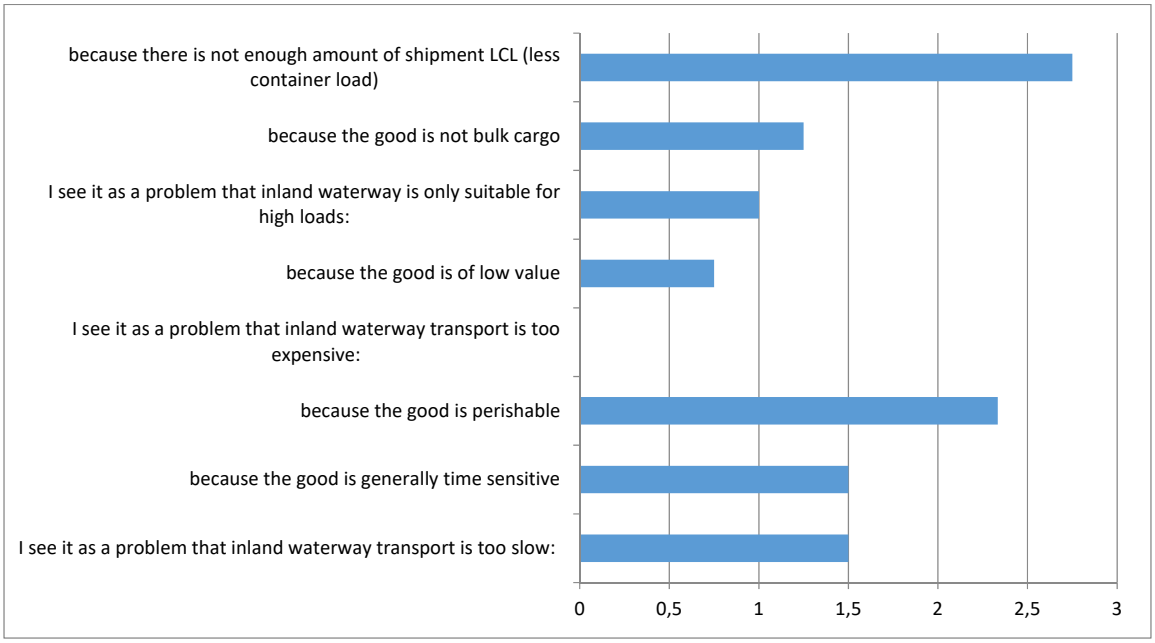

Figure 44. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- There is not enough amount of shipment LCL (less container load) – the average rating is 2.75;
- The good is perishable– the average rating is 2.33.

The **total** average rating for a group of questions regarding the impact of **(1) goods** influence on usage of inland waterway transport is **1.41.**

1.4.2. Barriers for inland waterway transport use because of (2) logistics

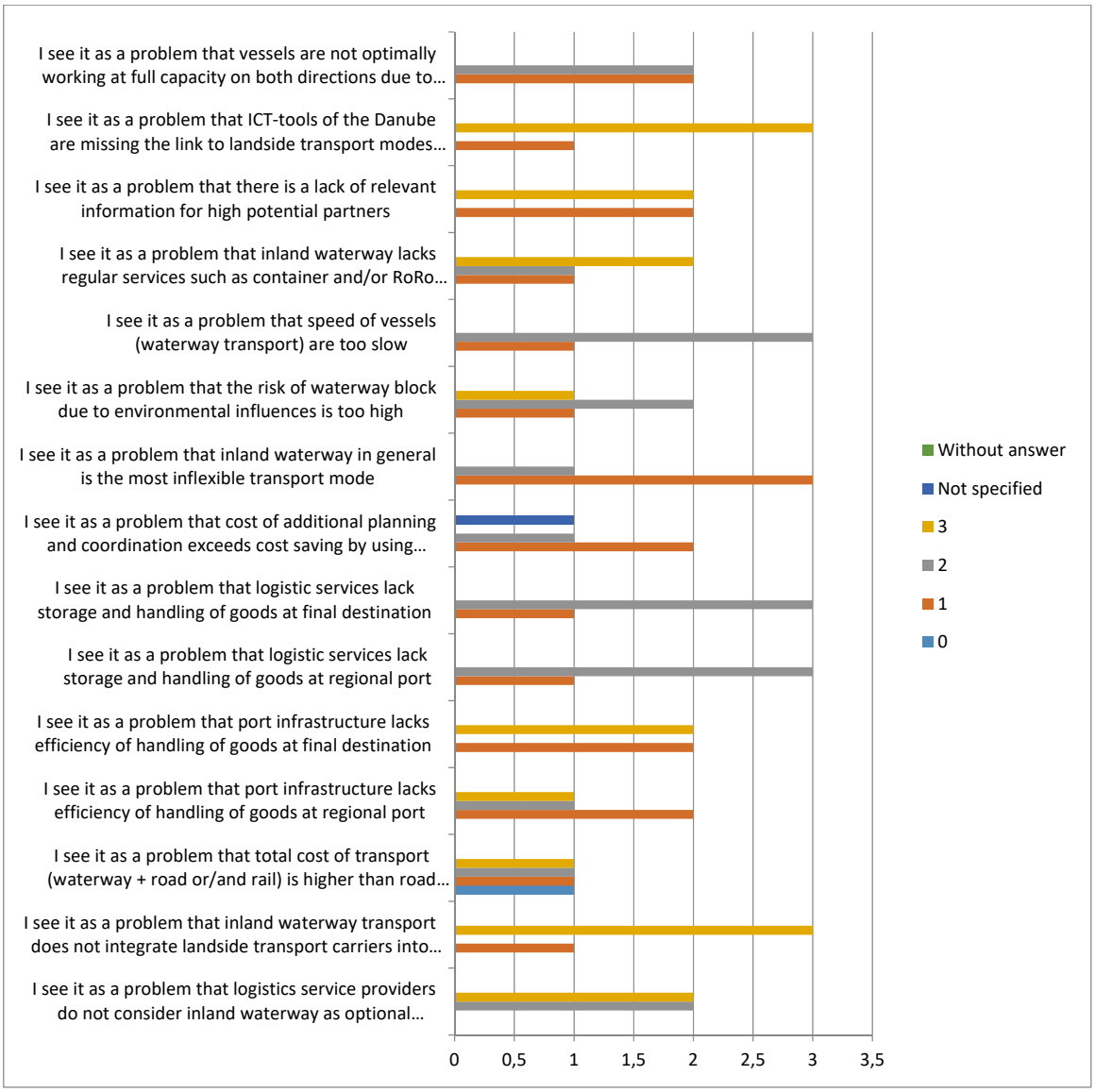

Figure 45. Participant answers (R&D/university)regarding the influence of logistic development on usage of inland waterway transport

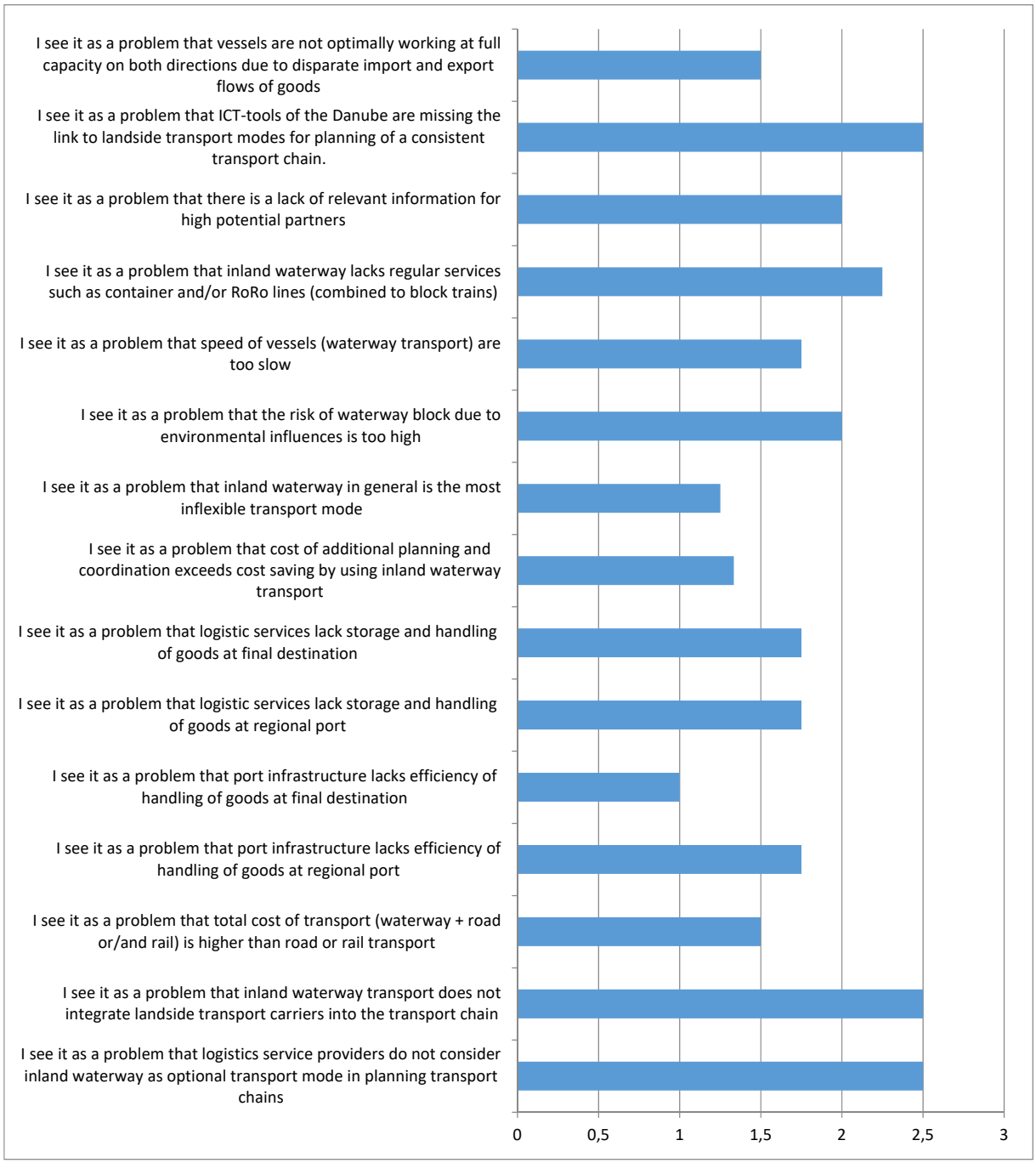

Figure 46. The average rating for each question

Accordingly, the main reasons for the not using theinland waterway transport are:

- That logistics service providers do not consider inland waterway as optional transport mode in planning transport chains - theaverage rating is 2.50;

- That inland waterway transport does not integrate landside transport carriers into the transport chain- theaverage rating is 2.50;
- ICT-tools of the Danube are missing the link to landside transport modes for planning of a consistent transport chain – the average rating is 2.50.

The **total** average rating for a group of questions about the impact of **(2) logistics** influence on usage of inland waterway transport is **1.90.**

1.4.3. Barriers for inland waterway transport use because of (3) infrastructure

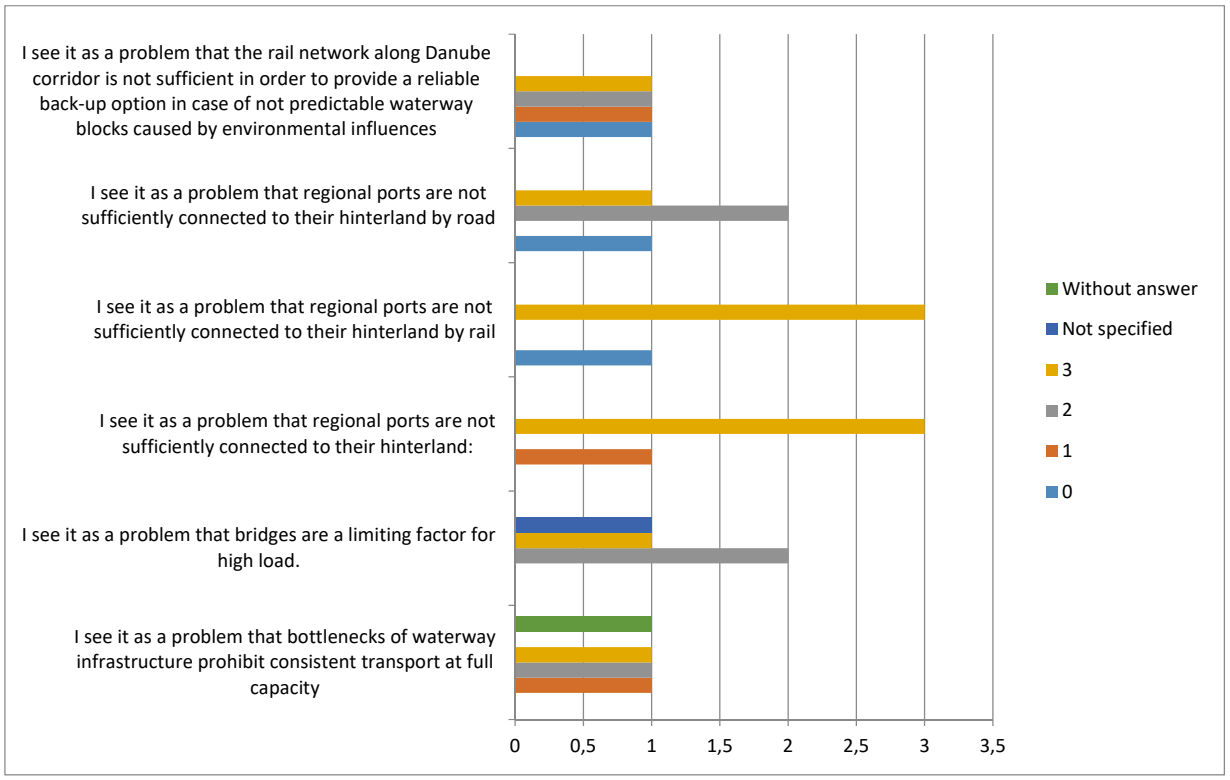

Figure 47. Participant answers (R&D/university)regarding the influence of infrastructure development on usage of inland waterway transport

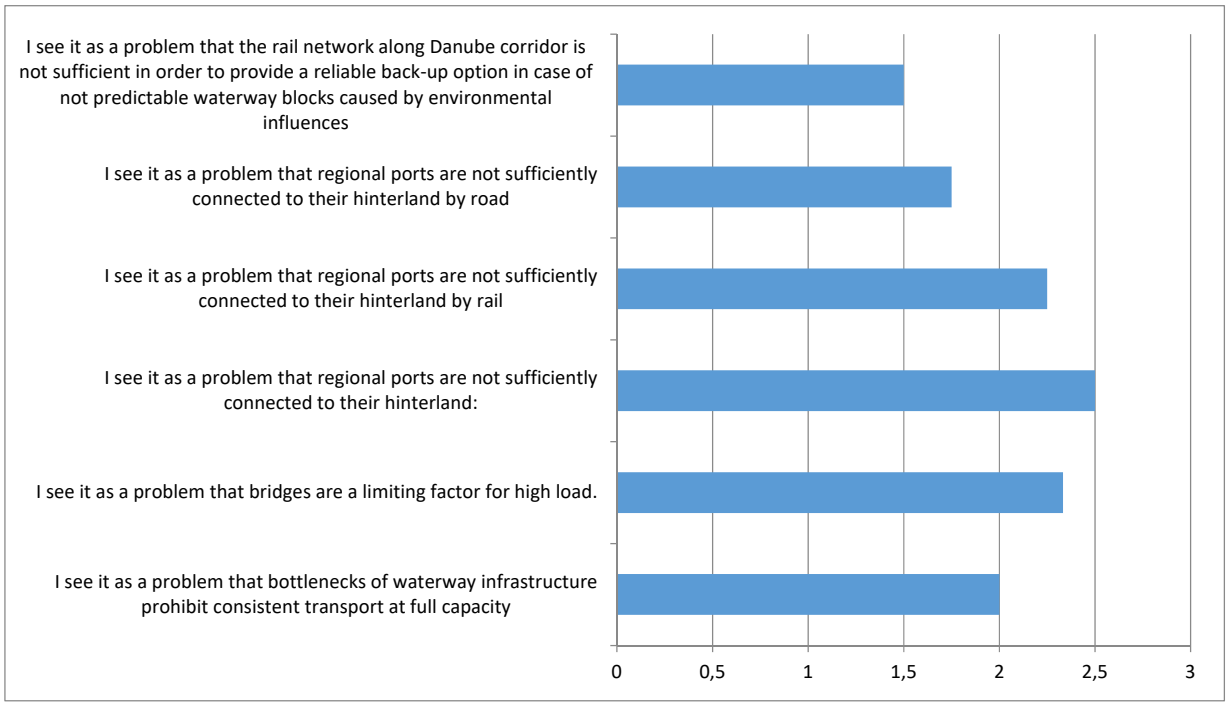

Figure 48. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Regional ports, which are not sufficiently connected to their hinterland– the average rating is 2.50;
- Bridges are a limiting factor for high load - the average rating is 2.33;
- Regional ports, which are not sufficiently connected to their hinterland by rail - the average rating is 2.25.

The **total** average rating for a group of questions about the impact of **(3) infrastructure** developmentinfluence on usage of inland waterway transport is **2.05.**

1.4.4. Barriers for inland waterway transport use because of (4.1) political/legal

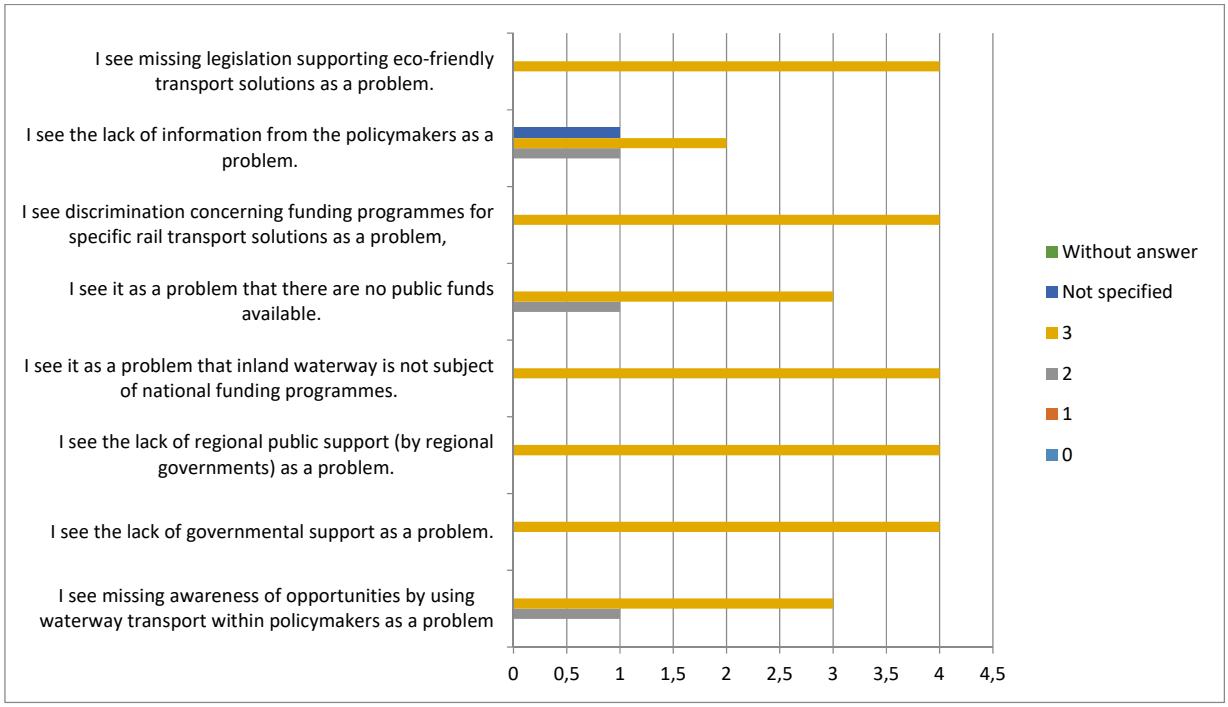

Figure 49. Participant answers(R&D/university) regarding the influence of policy making on usage of inland waterway transport

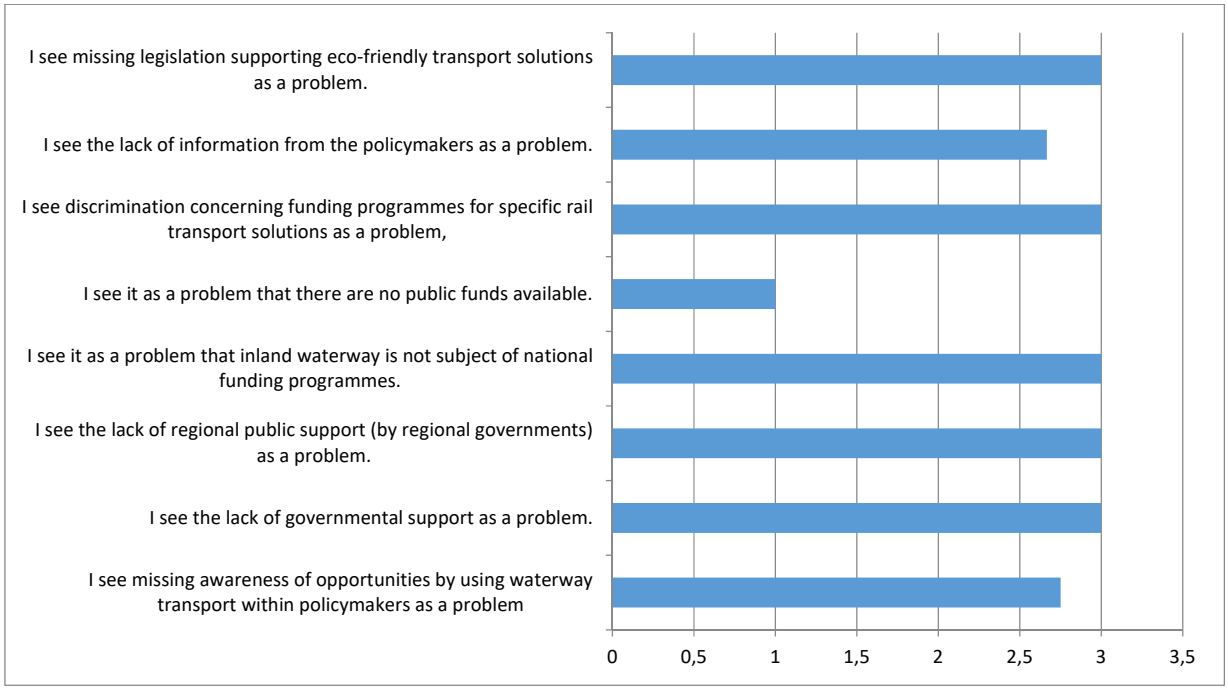

Figure 50. The average rating for each question

Accordingly , the main reasons for the not using the inland waterway transport are:

- The lack of governmental support - the average rating is 3.00;
- The lack of regional public support (by regional governments) - the average rating is 3.00;
- That inland waterway is not subject of national funding programmes - the average rating is 3.00;
- Discrimination concerning the funding programmes for specific rail transport solutions– the average rating is 3.00;
- Missing legislation supporting eco-friendly transport solutions – the average rating is 3.00.

The **total** average rating for a group of questions about the impact of **(4.1) political/legal** influence on usage of inland waterway transport is **2.90.**

1.4.5. Barriers for inland waterway transport use because of (4.2) environment

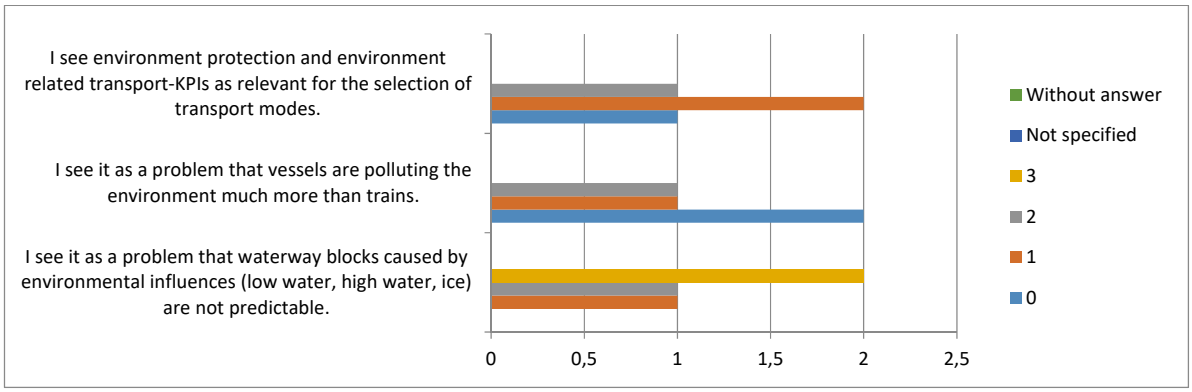

Figure 51. Participant answers (R&D/university)regarding the environment influence on usage of inland waterway transport

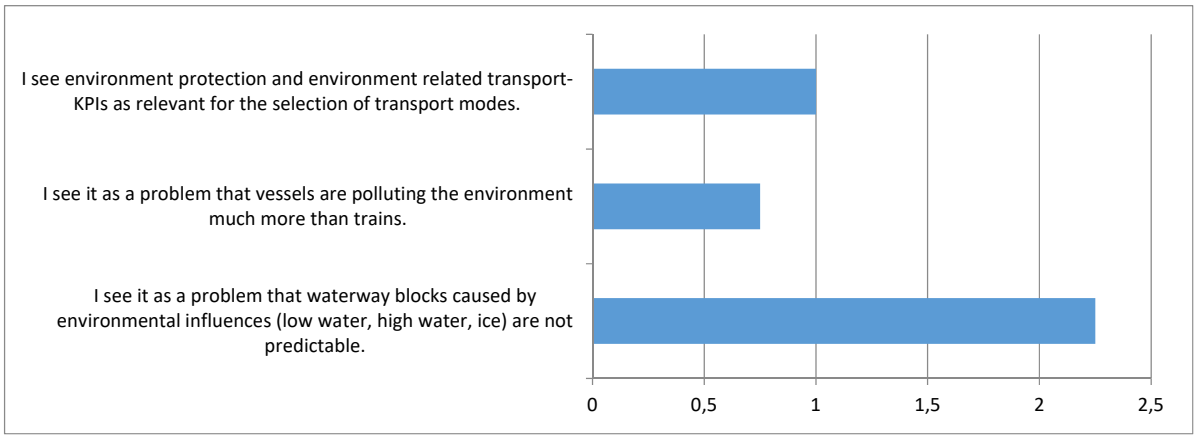

Figure 52. The average rating for each question

Accordingly, the main reason for the not using the inland waterway transport is:

- Hardly predictable waterway blocks, caused by environmental influences (low water, high water, ice) –the average rating is 2.25.

The **total** average rating for a group of questions about the impact of **(4.2) environment** influence on usage of inland waterway transport is **1.33.**

1.4.6. Barriers for inland waterway transport use because of (4.3) economy

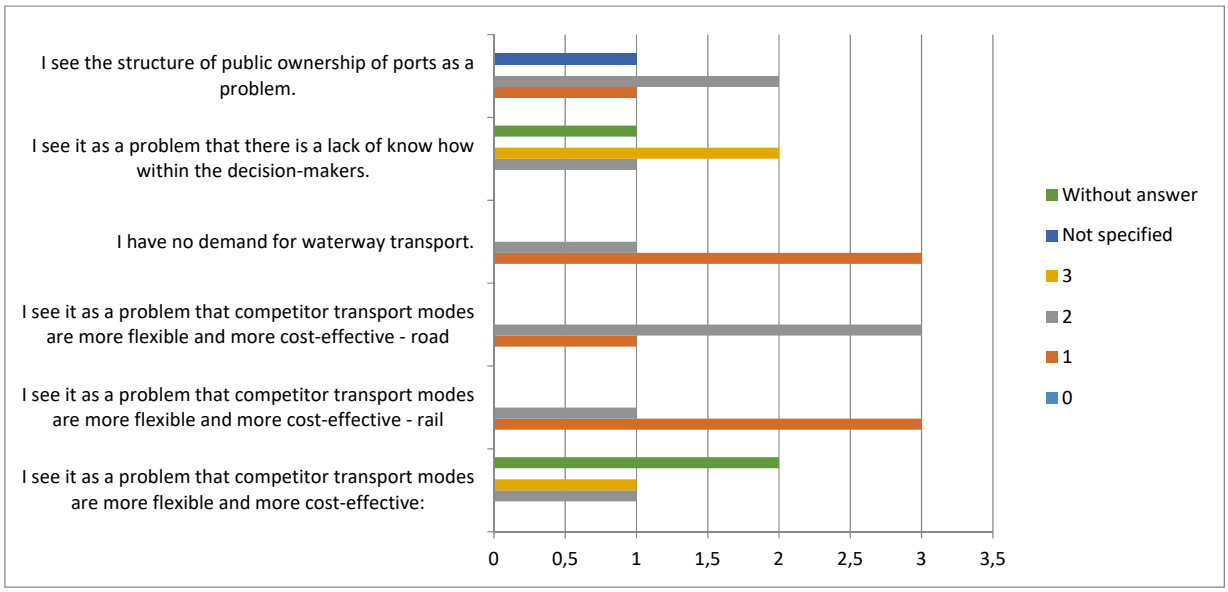

Figure 53. Participant answers (R&D/university)regarding the economy influence on usage of inland waterway transport

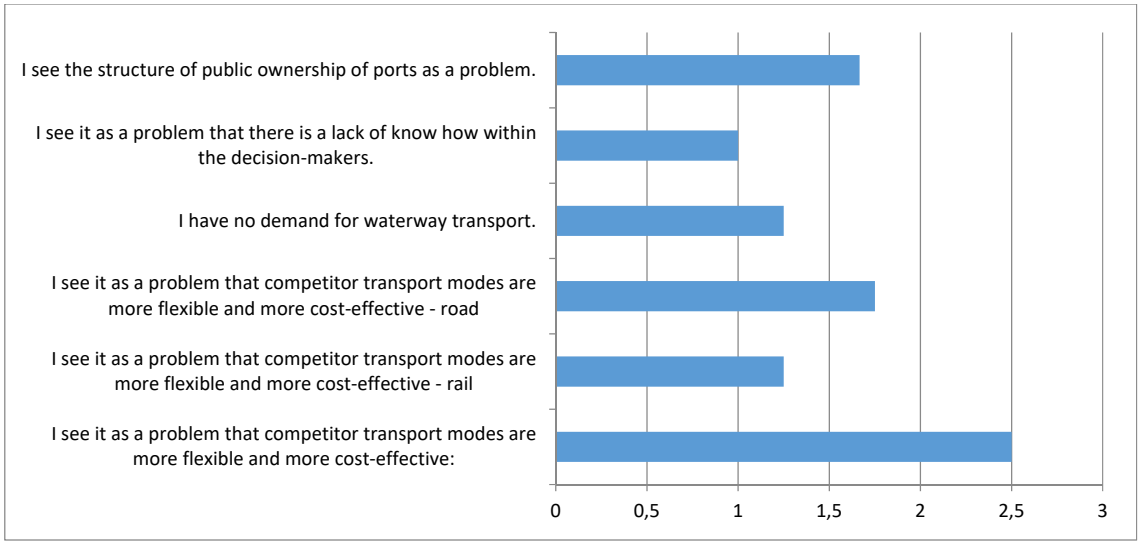

Figure 54. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- Competitor transport modes are more flexible and cost-effective – the average rating is 2.50;
- Competitor transport modes are more flexible and cost-effective – road– the average rating is 1.75.

The **total** average rating for a group of questions about the impact of **(4.3) economy** influence on usage of inland waterway transport is **1.75.**

1.4.7. Barriers for inland waterway transport use because of (4.4) technology

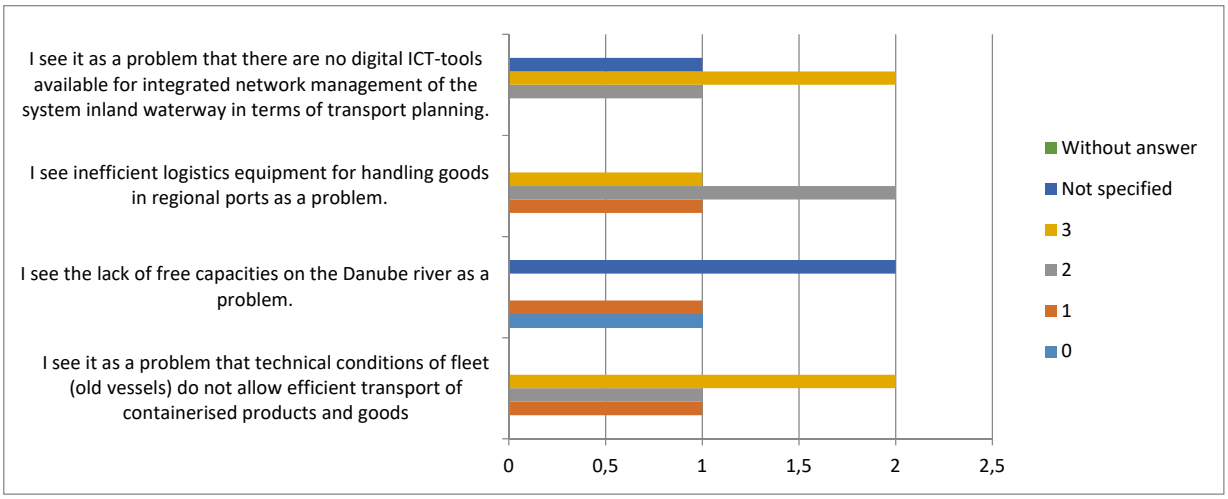

Figure 55. Participant answers (R&D/university)regarding the technology influence on usage of inland waterway transport

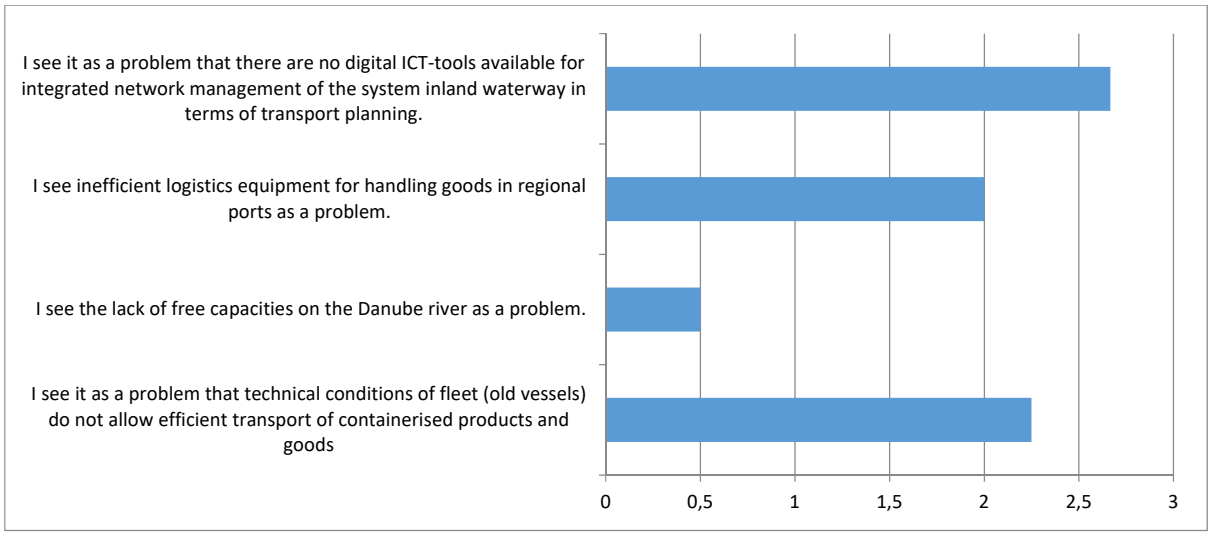

Figure 56. The average rating for each question

Accordingly, the main reasons for the not using the inland waterway transport are:

- There are no digital ICT-tools available for integrated network management of the system inland waterway in terms of transport planning – the average rating is 2.67.
- Technical conditions of fleet (old vessels) do not allow efficient transport of containerised products and goods-theaverage rating is 2.25;

The **total** average rating for a group of questions about the impact of **(4.4) technology** influence on usage of inland waterway transport is **2.00.**

2. Comparative analysis

Comparative analysis of the results, obtained by each sector and each group of questions, is shown in the figure 57.

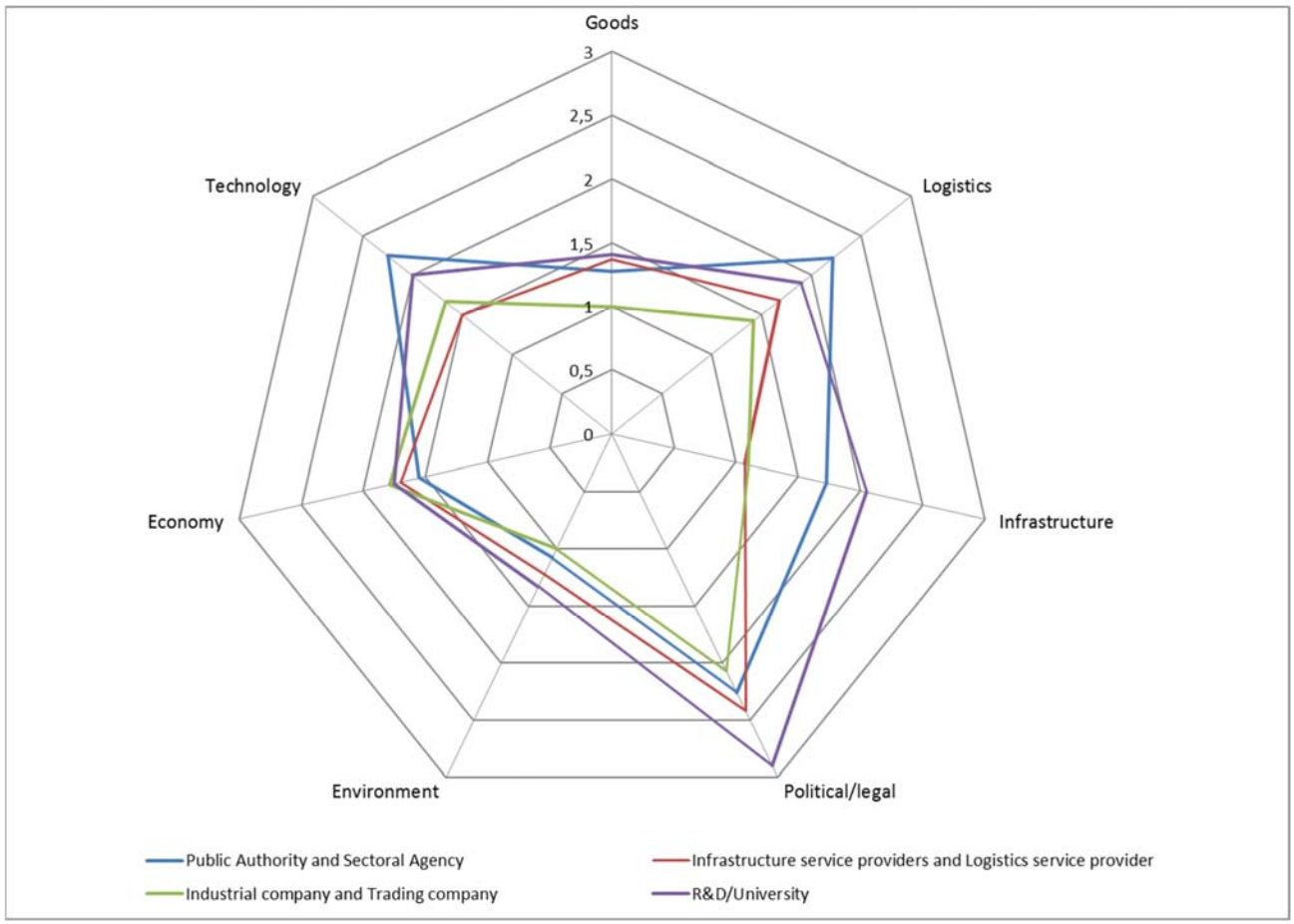

Figure 57. The average rating for each group of questions

The basic conclusions are:

- All participants think that ***political/legal*** is the most important parameter for not using the inland waterway; then follow ***logistics*** and ***technology*;**
- Public authority and sectoral agency have evaluated the ***technology*** as the most important parameter and as the least significant the ***environment***;
- Infrastructure service providers and logistics service provider have evaluated the ***political/legal*** as the most important parameter and as the least significant the ***infrastructure***;
- Industrial company and trading company have evaluated the ***political/legal*** as the most important parameter and as the least significant the ***goods and environment***;;
- R&D/University have evaluated the ***political/legal*** as the most important parameter and as the least significant the ***environment***.