

Claims

What is claimed is:

1. A method of managing pricing policies for transportation-related services provided by service providers to users, the method comprising:
 - receiving, from a first user, a first service request;
 - identifying, based on the first service request, a first requested service, a first target region, and a first request time for the first service request, wherein the first target region includes a relevant location for the first requested service, and wherein the first request time includes a time of the first service request;
 - selecting a historic dataset, the historic dataset including historic information on the first user, service providers in the first target region, other users in the first target region, and previous requests for service in the first target region;
 - selecting a current dataset, the current dataset including current information on the first user, service providers in the first target region, other users in the first target region, and current requests for service in the first target region;
 - generating a plurality of candidate pricing policies, wherein the generating of each candidate pricing policy includes generating a plurality of candidate prices for the first service request;
 - selecting a first pricing policy from among the plurality of candidate pricing policies, the first pricing policy selected based on at least the first target region and the first request time, wherein the first pricing policy includes a plurality of candidate first prices for the first service request, including at least a first candidate first price and a second candidate first price;
 - selecting a first target objective to be achieved from among a plurality of candidate target objectives;
 - for each of the plurality of candidate first prices of the first pricing policy, assessing a likelihood of achieving the selected first target objective if such candidate first price is applied to the first service request, including assessing a first likelihood of achieving the selected first target objective if the first candidate first price is applied to the first service request and assessing a second likelihood of achieving the selected first target objective if the second candidate first price is applied to the first service request, wherein the assessing of each likelihood of achieving the selected first target objective for each of the plurality of candidate first prices of the first pricing policy is based on at least the first target region, the first request time, the historic dataset, and the current dataset;

selecting the first candidate first price as a final price to apply to the first service request when the first likelihood of achieving the selected first target objective is greater than the assessed likelihoods of achieving the selected first target objective for the other candidate first prices of the first pricing policy; and

applying the final price to the first service request.

2. The method of claim 1, further comprising:

selecting one or more candidate service providers from among a plurality of available service providers;

wherein the applying of the final price to the first service request includes sending the final price to the first user and the one or more candidate service providers.

3. The method of claim 2, further comprising:

responsive to applying the final price to the first service request, identify an outcome of the first service request.

4. The method of claim 3, wherein the outcome of the first service request includes one or more of the following:

the first user has accepted or not accepted the final price; and/or

one of the candidate service providers has accepted or not accepted the final price; and/or

a time when the first user has accepted or not accepted the final price; and/or

a time when one of the candidate service providers has accepted or not accepted the final price; and/or

the first user had accepted the final price, but subsequently cancelled the first service request; and/or

one of the candidate service providers had accepted the final price, but subsequently cancelled the first service request.

5. The method of claim 3, further comprising:

providing, when assessing a likelihood of achieving the first target objective for a future service request for the first target region, the outcome of the first service request.

6. The method of claim 1, further comprising:

assessing a likelihood that the final price was selected from among the plurality of candidate first prices for the first pricing policy; and/or

assessing a likelihood that the final price was selected from among the plurality of candidate prices of the plurality of candidate pricing policies.

7. The method of claim 1, wherein the historic information in the historic dataset is selected based on the first request time.

8. The method of claim 7,
wherein the first request time includes a date, day of the week, day of the month, and time;
and

wherein the historic dataset includes historic information selected based on one or more of the following:

the time in the first request time; and/or

the day of the week in the first request time; and/or

the day of the month in the first request time; and/or

the date of the first request time.

9. The method of claim 8, wherein the historic information in the historic database includes information occurring within a predefined time window of one or more historic dates, each of the one or more historic dates being a date that is different from the date of the first request time, the predefined time window being a time period that includes a same time as the time in the first request time.

10. The method of claim 9, wherein one or more of the following apply:

the historic information includes information pertaining to service providers who were available in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to other users who sent a request for service in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to previous requests for service in the first target region sent by the first user within the predefined time window of a date that is different from the date of the first request time.

11. The method of claim 1,

wherein the current information in the current dataset includes information occurring within a predefined time window; and

wherein the current information in the current dataset is selected based on the first request time.

12. The method of claim 11, wherein one or more of the following apply:

the predefined time window includes a recent time window, the recent time window including a time period immediately preceding the first request time; and/or

the predefined time window includes an upcoming time window, the upcoming time window including a time period immediately after the first request time.

13. The method of claim 12, wherein one or more of the following apply:

the current information includes information pertaining to service providers who are available as of the first request time; and/or

the current information includes information pertaining to service providers who became available in the first target region within the recent time window; and/or

the current information includes information pertaining to requests for service in the first target region that have not yet been accepted by the other users and/or service providers as of the first request time; and/or

the current information includes information pertaining to requests for service in the first target region sent by other users within the recent time window; and/or

the current information includes information pertaining to service providers who are expected to become available in the first target region within the upcoming time window; and/or

the current information includes information pertaining to other users who are expected to send a request for a service in the first target region within the upcoming time window.

14. The method of claim 1, wherein the selecting of the first target objective includes assessing, for one or more previous requests for service in the first target region, an outcome for each of the previous requests for service, a request time for each of the previous requests for service, a historic dataset for each of the previous requests for service, a current dataset for each of the previous requests for service, a selected target objective for each of the previous requests for service, and/or an assessed likelihood of achieving the selected target objective for each of the previous requests for service.

15. The method of claim 1, wherein each candidate target objective, including the first target objective, includes a business metric to be optimized.

16. The method of claim 1, wherein one or more of the following apply:

the assessing of the likelihood of achieving the first target objective is further based on one or more previous requests for service in the first target region; and/or

the assessing of the likelihood of achieving the first target objective is further based on an outcome of one or more previous requests for service in the first target region.

17. The method of claim 1, wherein one or more of the following apply:

the historic dataset and/or current dataset include information pertaining to service providers who are expected to become available in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include information pertaining to other users who are expected to send a request for a service in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include a price tolerance for the first user for the first target region and first request time, the price tolerance for the first user including a maximum price the first user is expected to pay for the first service request; and/or

the historic dataset and/or current dataset include a price tolerance for one or more candidate service providers for the first target region and first request time, the price tolerance including a minimum price that the one or more candidate service providers are expected to accept for the first service request.

18. The method of claim 1, wherein one or more of the following apply:

the plurality of candidate pricing policies includes one or more separate pricing policies for the first user; and/or

the plurality of candidate pricing policies includes one or more separate pricing policies for one or more candidate service providers; and/or

the plurality of candidate pricing policies includes one or more pricing policies applicable to both the first user and candidate service providers.

19. The method of claim 1,

wherein the final price has a first probability of achieving the first target objective;

wherein one or more other candidate first prices for the first pricing policy has a second probability of achieving the first target objective; and

wherein the first probability is different from the second probability.

20. The method of claim 19, wherein the first probability is lower than the second probability.

21. The method of claim 1,
wherein the final price is expected to result in a first outcome for the first target objective;
wherein one or more other candidate first prices for the first pricing policy is expected to result in a second outcome for the first target objective; and
wherein the first outcome is different from the second outcome.
22. The method of claim 1, wherein the historic dataset for the first target region includes one or more of the following:
historic number of service providers in the first target region; and/or
historic availability of service providers in the first target region; and/or
historic number of users in the first target region; and/or
historic requests for service from users in the first target region; and/or
historic acceptance rate of requests for service in the first target region; and/or
historic cancellation rate of requests for service by service providers in the first target region;
and/or
historic cancellation rate of requests for service by users in the first target region; and/or
historic information regarding service providers in the first target region; and/or
historic information regarding users in the first target region.
23. The method of claim 1, wherein the current dataset for the first target region includes one or more of the following:
current number of service providers in the first target region; and/or
current availability of service providers in the first target region; and/or
current number of users in the first target region; and/or
current requests for service from users in the first target region; and/or
current acceptance rate of requests for service in the first target region; and/or
current cancellation rate of requests for service by service providers in the first target region;
and/or
current cancellation rate of requests for service by users in the first target region; and/or
current information regarding service providers in the first target region; and/or
current information regarding users in the first target region.
24. The method of claim 1, wherein one or more of the following apply:
the first target region is a predetermined region; and/or

the first request time is based on a time when the first service request was received; and/or
the first target objective is a predetermined objective to be optimized; and/or
the relevant location in the first target region includes an origin location and/or a destination location.

25. The method of claim 1, wherein the first target region, first request time, and/or first target objective are dynamically determined based on at least the first service request.

26. The method of claim 25, wherein the first target region, first request time, and/or first target objective are dynamically determined based on one or more of the following:

a specific date; and/or

a specific time; and/or

a specific day of the week; and/or

a specific day of the month; and/or

historic information on service providers and users; and/or

current information on service providers and users.

27. The method of claim 3, further comprising:

receiving, from a second user, a second service request;

identifying, based on the second service request, a second requested service, a second target region, and a second request time for the second service request, wherein the second target region includes a second relevant location for the second requested service, and wherein the second request time includes a time of the second service request;

selecting a second historic dataset for the second target region, the second historic dataset including historic information on the second user, service providers in the second target region, other users in the second target region, and previous requests for service in the second target region;

selecting a second current dataset for the second target region, the second current dataset including current information on the second user, service providers in the second target region, other users in the second target region, and current requests for service in the second target region;

generating a plurality of second candidate pricing policies, wherein the generating of each second candidate pricing policy includes generating a plurality of second candidate prices for the second service request;

selecting a second pricing policy from among the plurality of second candidate pricing policies, the second pricing policy selected based on at least the second target region and the second

request time, the second pricing policy including a plurality of candidate second prices for the second service request;

selecting a second target objective to be achieved from among a plurality of candidate target objectives;

for each of the candidate second prices of the second pricing policy, assessing a likelihood of achieving the selected second target objective, the assessing based on at least the second target region, the second request time, the second historic dataset, the second current dataset, and the identified outcome of the first service request;

selecting a second final price from among the plurality of candidate second prices of the second pricing policy, the second final price being selected based on at least the assessed likelihoods of achieving the second target objective; and

applying the second final price to the second service request.

28. The method of claim 27, wherein one or more of the following apply:

the second user is the same as the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is the same as the first requested service; and/or

the second target region is the same region as the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or

the second pricing policy is the same as the first pricing policy; and/or

the second target objective is the same as the first target objective; and/or

the second final price is the same as the first final price.

29. The method of claim 27, wherein one or more of the following apply:

the second user is a different user than the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is a different service than the first requested service; and/or

the second target region is a different region as compared to the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or

the second pricing policy is different from the first pricing policy; and/or

the second target objective is different from the first target objective; and/or

the second final price is different from the first final price.

30. The method of claim 1, wherein the selecting of the first pricing policy from among the plurality of candidate pricing policies is further based on a likelihood that the first pricing policy will be selected from among the plurality of candidate pricing policies.

31. A method of managing pricing policies for transportation-related services provided by service providers to users, the method comprising:

- receiving, from a first user, a first service request;

- identifying, based on the first service request, a first requested service, a first target region, and a first request time for the first service request, wherein the first target region includes a relevant location for the first requested service, and wherein the first request time includes a time of the first service request;

- selecting a historic dataset, the historic dataset including historic information for the first target region;

- selecting a current dataset, the current dataset including current information for the first target region;

- selecting a first pricing policy from among a plurality of candidate pricing policies, the first pricing policy selected based on at least the first target region and the first request time, the first pricing policy including a first candidate first price and a second candidate first price;

- selecting a first target objective to be optimized from among a plurality of candidate target objectives;

- generating a first forecasted outcome for the selected first target objective based on the first candidate first price being applied to the first service request;

- generating a first likelihood of achieving the first forecasted outcome;

- generating a second forecasted outcome for the selected first target objective based on the second candidate first price being applied to the first service request;

- generating a second likelihood of achieving the second forecasted outcome

- selecting the first candidate first price as a final price to apply to the first service request when the first likelihood of achieving the first forecasted outcome is greater than the second likelihood of achieving the second forecasted outcome; and

- applying the final price to the first service request.

32. The method of claim 31, further comprising:

selecting one or more candidate service providers from among a plurality of available service providers;

wherein the applying of the final price to the first service request includes sending the final price to the first user and the one or more candidate service providers.

33. The method of claim 32, further comprising:

responsive to applying the final price to the first service request, identify an outcome of the first service request.

34. The method of claim 33, wherein the outcome of the first service request includes one or more of the following:

the first user has accepted or not accepted the final price; and/or
one of the candidate service providers has accepted or not accepted the final price; and/or
a time when the first user has accepted or not accepted the final price; and/or
a time when one of the candidate service providers has accepted or not accepted the final price; and/or

the first user had accepted the final price, but subsequently cancelled the first service request; and/or

one of the candidate service providers had accepted the final price, but subsequently cancelled the first service request.

35. The method of claim 33, further comprising:

providing, when forecasting an outcome for the first target objective for a future service request for the first target region, the outcome of the first service request.

36. The method of claim 31, further comprising:

assessing a likelihood that the final price was selected from among the plurality of candidate first prices for the first pricing policy; and/or

assessing a likelihood that the final price for the first pricing policy was selected from among the plurality of candidate prices of the plurality of candidate pricing policies.

37. The method of claim 31, wherein:

the historic information in the historic dataset includes historic information on the first user, service providers in the first target region, other users in the first target region, and previous requests for service in the first target region.

the historic information in the historic dataset is selected based on the first request time.

38. The method of claim 37, wherein:

the first request time includes a date, day of the week, day of the month, and time;

the historic dataset includes historic information selected based on one or more of the following:

the time in the first request time;

the day of the week in the first request time;

the day of the month in the first request time; and/or

the date of the first request time.

39. The method of claim 38, wherein the historic information in the historic database includes information occurring within a predefined time window, the predefined time window being a time period that includes a same time as the time in the first request time.

40. The method of claim 39, wherein one or more of the following apply:

the historic information includes information pertaining to service providers who were available in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to other users who sent a request for service in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to previous requests for service in the first target region sent by the first user within the predefined time window of a date that is different from the date of the first request time.

41. The method of claim 31, wherein:

the current information in the current dataset includes current information on the first user, service providers in the first target region, other users in the first target region, and current requests for service in the first target region;

the current information in the current dataset includes information occurring within a predefined time window; and

the current information in the current dataset is selected based on the first request time.

42. The method of claim 41, wherein one or more of the following apply:

the predefined time window includes a recent time window, the recent time window including a time period immediately preceding the first request time; and/or

the predefined time window includes an upcoming time window, the upcoming time window including a time period immediately after the first request time.

43. The method of claim 42, wherein one or more of the following apply:

the current information includes information pertaining to service providers who are available as of the first request time; and/or

the current information includes information pertaining to service providers who became available in the first target region within the recent time window; and/or

the current information includes information pertaining to requests for service in the first target region that have not yet been accepted by the other users and/or service providers as of the first request time; and/or

the current information includes information pertaining to requests for service in the first target region sent by other users within the recent time window; and/or

the current information includes information pertaining to service providers who are expected to become available in the first target region within the upcoming time window; and/or

the current information includes information pertaining to other users who are expected to send a request for a service in the first target region within the upcoming time window.

44. The method of claim 31, wherein the selecting of the first target objective includes assessing, for one or more previous requests for service in the first target region, an outcome for each of the previous requests for service, a request time for each of the previous requests for service, a historic dataset for each of the previous requests for service, a current dataset for each of the previous requests for service, a selected target objective for each of the previous requests for service, and/or an assessed likelihood of achieving the selected target objective for each of the previous requests for service.

45. The method of claim 31, wherein each candidate target objective, including the first target objective, includes a business metric to be optimized.

46. The method of claim 31, wherein one or more of the following apply:

the forecasting of the outcome of the first target objective is further based on one or more previous requests for service in the first target region; and/or

the forecasting of the outcome of the first target objective is further based on an outcome of one or more previous requests for service in the first target region.

47. The method of claim 31, wherein one or more of the following apply:

the historic dataset and/or current dataset include information pertaining to service providers who are expected to become available in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include information pertaining to other users who are expected to send a request for a service in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include a price tolerance for the first user for the first target region and first request time, the price tolerance for the first user including a maximum price the first user is expected to pay for the first service request; and/or

the historic dataset and/or current dataset include a price tolerance for one or more candidate service providers for the first target region and first request time, the price tolerance including a minimum price that the one or more candidate service providers are expected to accept for the first service request.

48. The method of claim 31, wherein one or more of the following apply:

the plurality of candidate pricing policies includes one or more separate pricing policies for the first user; and/or

the plurality of candidate pricing policies includes one or more separate pricing policies for one or more candidate service providers; and/or

the plurality of candidate pricing policies includes one or more pricing policies applicable to both the first user and candidate service providers.

49. The method of claim 31,

wherein the final price is expected to result in a first outcome for the first target objective; wherein one or more other candidate first prices for the first pricing policy is expected to result in a second outcome for the first target objective; and

wherein the first outcome is different from the second outcome.

50. The method of claim 31, wherein the historic dataset for the first target region includes one or more of the following:

historic number of service providers in the first target region; and/or

historic availability of service providers in the first target region; and/or

historic number of users in the first target region; and/or

historic requests for service from users in the first target region; and/or

historic acceptance rate of requests for service in the first target region; and/or
historic cancellation rate of requests for service by service providers in the first target region;
and/or
historic cancellation rate of requests for service by users in the first target region; and/or
historic information regarding service providers in the first target region; and/or
historic information regarding users in the first target region.

51. The method of claim 31, wherein the current dataset for the first target region includes one or more of the following:

current number of service providers in the first target region; and/or
current availability of service providers in the first target region; and/or
current number of users in the first target region; and/or
current requests for service from users in the first target region; and/or
current acceptance rate of requests for service in the first target region; and/or
current cancellation rate of requests for service by service providers in the first target region;
and/or

current cancellation rate of requests for service by users in the first target region; and/or
current information regarding service providers in the first target region; and/or
current information regarding users in the first target region.

52. The method of claim 31, wherein one or more of the following apply:

the first target region is a predetermined region; and/or
the first request time is based on a time when the first service request was received; and/or
the first target objective is a predetermined objective to be optimized; and/or
the relevant location in the first target region includes an origin location and/or a destination location.

53. The method of claim 31, wherein the first target region, first request time, and/or first target objective are dynamically determined based on at least the first service request.

54. The method of claim 53, wherein the first target region, first request time, and/or first target objective are dynamically determined based on one or more of the following:

a specific date; and/or
a specific time; and/or
a specific day of the week; and/or

a specific day of the month; and/or

historic information on service providers and users; and/or

current information on service providers and users.

55. The method of claim 33, further comprising:

receiving, from a second user, a second service request;

identifying, based on the second service request, a second requested service, a second target region, and a second request time for the second service request, wherein the second target region includes a second relevant location for the second requested service, and wherein the second request time includes a time of the second service request;

selecting a second historic dataset for the second target region, the second historic dataset including historic information for the second target region;

selecting a second current dataset for the second target region, the second current dataset including current information for the second target region;

selecting a second pricing policy from among a plurality of second candidate pricing policies, the second pricing policy selected based on at least the second target region and the second request time, the second pricing policy including a plurality of candidate second prices for the second service request;

selecting a second target objective to be optimized from among a plurality of candidate target objectives;

for each of the candidate second prices, forecasting an outcome for the selected second target objective based on at least the candidate second prices;

selecting a second final price from among the plurality of candidate second prices of the second pricing policy, the second final price being selected based on at least the forecasted outcomes for the second target objective; and

applying the second final price to the second service request.

56. The method of claim 55, wherein one or more of the following apply:

the second user is the same as the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is the same as the first requested service; and/or

the second target region is the same region as the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or
the second pricing policy is the same as the first pricing policy; and/or
the second target objective is the same as the first target objective; and/or
the second final price is the same as the first final price.

57. The method of claim 55, wherein one or more of the following apply:
- the second user is a different user than the first user; and/or
the second service request was received after the first service request; and/or
the second requested service is a different service than the first requested service; and/or
the second target region is a different region as compared to the first target region; and/or
the second request time occurs after the first request time; and/or
the second historic dataset includes information pertaining to the first service request; and/or
the second pricing policy is different from the first pricing policy; and/or
the second target objective is different from the first target objective; and/or
the second final price is different from the first final price.