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[with international search report (Art. 21(3))]

Title: MULTI-CHANNEL PIVOTING

Abstract: An method of pivoting a customer among synchronous and asynchronous communications channels during a communication session.
MULTI-CHANNEL PIVOTING

RELAT ED APPLICATION

This application claims priority to U.S. Provisional Patent Application No. 61/743,275, filed on August 30, 2012, the contents of which are hereby incorporated by reference as if set forth in their entirety.

BACKGROUND

Social media and other digital public communication forums are widely adapted by users to communicate with companies and service providers. It is increasingly important for such companies and service providers to optimally allocate resources for handling communications from these channels. Typically, agents who are assigned to handle these communications would respond in the same channel as the original communication from a user. For example, if a user tweets to a service provider via Twitter, the agent would tweet back to the user in response. This approach has some disadvantages. First, the communication remains public and may damage the service provider’s reputation. Second, valuable customers who deserve a better service may not be attended to as deserved. Third, most companies and service providers have established best practices and procedures to deal with Voice and Email but have not yet done so for emerging channels.

Thus, a market exists for an efficient multi-channel pivoting among synchronous and asynchronous communication channels during a communication session.

SUMMARY

An exemplary computer-implemented method for pivoting a customer among synchronous and asynchronous communications channels during a communication session comprises: (a) during a communication session with a customer, determining a need to pivot a customer from a first communication channel to a second communication channel; (b) optimally determining one or more eligible communication channels based on data related to the customer, said eligible communication channels including synchronous and asynchronous communication channels; (c) enabling the customer to select one of the one or more eligible
communication channels during the communication session; and (d) pivoting the customer to
the selected one of the one or more eligible communication channels during the
communication session.

Other exemplary embodiments and implementations are disclosed herein.

BRIEF DESCRIPTION OF THE FIGURES

FIGURE 1 illustrates an exemplary system for automatic multi-channel pivoting.
FIGURE 2 illustrates an exemplary work routing system for facilitating multi-channel
pivoting.
FIGURE 3 illustrates an exemplary process for pivoting among multiple channels
during a communication session.
FIGURE 4 illustrates an exemplary process for pivoting a customer among
synchronous and asynchronous communication channels during a communication session.

DETAILED DESCRIPTION

The following description is presented to enable any person skilled in the art to make
and use the invention, and is provided in the context of particular applications of the
invention and their requirements. Various modifications to the disclosed embodiments will
be readily apparent to those skilled in the art and the general principles defined herein may be
applied to other embodiments and applications without departing from the scope of the
present invention. Thus, the present invention is not intended to be limited to the
embodiments shown, but is to be accorded the widest scope consistent with the principles and
features disclosed herein.

Figure 1 illustrates an exemplary system for multi-channel pivoting during a
communication session. The exemplary system 100 includes public communication forums
110, private communication channels 120, and a work routing system 130 coupled to the
forums and the channels for facilitating a communication session between a customer 140
and a customer support agent 150. The public communications forums 110 include, without
limitation, Facebook wall, Twitter public tweets, Pinterest board, corporate community
forum, blog public comments, and/or other public forums. The private communication
channels 120 include, without limitation, telephone system, social private messaging services, email server, web chat server, SMS gateway, and/or other private communication channels.

Figure 2 illustrates an exemplary work routing system 130. The work routing system 130 includes a pivot offer module 210, a work assignment module 220, a customer database 230, and communication system connectors 240. The communication system connectors 240 include multiple connectors for communications with both the public communication forums 110 and private communication channels 120.

Figure 3 illustrates an exemplary process for pivoting among multiple-channels during a communication session between the customer 140 and the customer support agent 150.

At block 310, the customer 140 posts a communication to a product wall on Facebook in the public communications forums 110.

At block 320, the communication system connector for Facebook 240 detects the public post and delivers its content to the pivot offer module 210.

At block 330, the pivot offer module 210 looks for the customer’s Facebook ID in the customer database 230, finds the customer, and retrieves the customer’s telephone number.

At block 340, the pivot offer module 210 instructs the communication system connector for Facebook 240 to post a reply on the customer’s comment. In exemplary implementation, the content of the reply asks the customer 140 to reply with either a “Yes” or “No” for an immediate callback from an agent.

At block 350, the customer’s reply for an immediate callback is received by the communication system connector for Facebook 240 and is conveyed to the pivot offer module 210.

At block 360, the pivot offer module 210 submits a request for contact to the work assignment module 220.

At block 370, the work assignment module 370 selects an appropriate customer support agent 150 and instructs the communication system connector for telephony 240 to connect the customer support agent 150 to the customer 140 via the telephone system in the private communications channels 120.

Customer support agent 150 and customer 140 continue the same communication session via a different communication channel to engage in a private discussion. The process Figure 3 is
merely exemplary. For example, the work assignment module 370 may instruct the communication system connector to connect the customer to anyone of the available communication channels, whether or not a voice channel, depending on the specific circumstances relating to the communication session.

In an exemplary implementation, during a communication session with a customer, the work routing system 130 enables pivoting seamlessly from a public channel to a private channel and further enables seamless pivoting among multiple private channels (e.g., the private communication channels 120), whether synchronous or asynchronous. Synchronous channels include, without limitation, voice channels and web chat channels. Asynchronous channels include, without limitation, email, blog, tweet, text message, and others. In general, a public channel is a channel accessible by more than the parties involved in the communication session (e.g., may be viewable by the public at large). A private channel typically is accessible by only the parties involved in the communication session.

The system enables both the customers to choose a preferred channel most meaningful to them and companies to choose the channel most optimized for each customer from a choice of channels. For example, low-value customers may never be offered a voice channel.

In an exemplary implementation, a set of eligible communication channels are selected based on a value score assigned to a customer. A value score may be determined based on data from an external data source and/or data in the customer database 230.

Figure 4 illustrates an exemplary process for pivoting a customer among synchronous and asynchronous communication channels during a communication session.

At block 410, during a communication session with a customer, an agent 150 or the work routing system 150 may determine a need to pivot a customer from a first communication channel to a second communication channel. The need may be determined based on many factors including, without limitation, automatically based on keyword analysis, automatically based on business rules, dynamically by the agent participating in the communication session, based on at least one prior interaction with the customer, and/or other factors. In an exemplary implementation, the first communication channel is a public channel and the second communication channel is a private channel.
At block 420, the work routing system 130 optimally determines one or more eligible communication channels based on data related to the customer. In an exemplary implementation, the eligible communication channels may include synchronous and asynchronous communication channels. For example, based on a value score assigned to a customer, at least one synchronous channel becomes an eligible communication channel if the value score is higher than a threshold value or at least one asynchronous channel becomes an eligible communication channel if the value score is lower than a threshold value.

At block 430, the work routing system 130 enables the customer to select one of the one or more eligible communication channels during the communication session. In an exemplary implementation, a choice for one or more eligible communication channels is displayed to the customer.

At block 440, the work routing system 130 pivots the customer to the selected one of the one or more eligible communication channels during the communication session. The pivoting may be facilitated based on customer input, automatically upon customer selection, undetectable by the customer, or by other implementations depending on design choice.

**Exemplary Operating Environments**

The program environment in which a present embodiment of the invention is executed illustratively incorporates a general-purpose computer or a special purpose device such as a hand-held computer. Details of such devices (e.g., processor, memory, data storage, display) may be omitted for the sake of clarity.

It should also be understood that the techniques of the present invention may be implemented using a variety of technologies. For example, the methods described herein may be implemented in software executing on a computer system, or implemented in hardware utilizing either a combination of microprocessors or other specially designed application specific integrated circuits, programmable logic devices, or various combinations thereof. In particular, the methods described herein may be implemented by a series of computer-executable instructions residing on a suitable computer-readable medium. Suitable computer-readable media may include volatile (e.g., RAM) and/or non-volatile (e.g., ROM, disk) memory.

The foregoing embodiments of the invention have been presented for purposes of illustration and description only. They are not intended to be exhaustive or to limit the
invention to the forms disclosed. Accordingly, the scope of the invention is defined by the appended claims, not the preceding disclosure.
WHAT IS CLAIMED IS:

1. A computer-implemented method for pivoting a customer among synchronous and asynchronous communication channels during a communication session, comprising:
   during a communication session with a customer, determining a need to pivot a customer from a first communication channel to a second communication channel;
   optimally determining one or more eligible communication channels based on data related to the customer, said eligible communication channels including synchronous and asynchronous communication channels;
   enabling the customer to select one of the one or more eligible communication channels during the communication session; and
   pivoting the customer to the selected one of the one or more eligible communication channels during the communication session.

2. The method of claim 1, wherein said need is determined automatically based on keyword analysis.

3. The method of claim 1, wherein said need is determined automatically based on business rules.

4. The method of claim 1, wherein said need is determined dynamically by an agent participating in the communication session.

5. The method of claim 1, wherein said need is determined based on at least one prior interaction with the customer.

6. The method of claim 1, wherein said first communication channel is a public channel.

7. The method of claim 1, wherein said second communication channel is a private channel.

8. The method of claim 1, wherein said data related to the customer includes a value score assigned to the customer.
9. The method of claim 8, wherein at least one synchronous channel becomes an eligible communication channel if the value score is higher than a threshold value.

10. The method of claim 8, wherein at least one asynchronous channel becomes an eligible communication channel if the value score is lower than a threshold value.

11. The method of claim 1, wherein said data related to the customer include data from at least one prior interaction with the customer.

12. The method of claim 1, further comprising displaying said determined one or more eligible communication channels to the customer.

13. The method of claim 1, wherein said pivoting is performed based on a customer input.

14. The method of claim 1, wherein said pivoting is performed automatically upon customer selection.

15. The method of claim 1, wherein said pivoting is undetectable by the customer.

16. A communications system for pivoting a customer among synchronous and asynchronous communication channels during a communication session, the system comprising:
   a pivot offer module coupled to a customer database; and
   a plurality of communication system connectors for connecting to public and private communication channels;
   wherein the pivot offer module being configured to:
   receive a communication from a customer during a communication session from a public channel through the communication connectors;
   determine the customer’s value score based on data in the customer database;
   offering one or more eligible communication channels to the customer through the communication system connectors;
   receiving a response from the customer indicating a selection; and
pivoting the communication session from the public channel to a private channel based on the selection.

17. The system of claim 16, further comprising: a work assignment module coupled to the pivot offer module; wherein said work assignment module is configured to:
   select a customer support agent; and
   instruct the communication system connectors to connect the customer support agent to the customer via a telephone system.
FIG. 2
Customer Posts to Product Wall on Facebook

Communication System Connector for Facebook Detects the Post and Delivers Content to Pivot Offer Module

Pivot Offer Module looks for Customer's Facebook ID in Customer Database to Retrieve Customer's Telephone Number

Pivot Offer Module Instructs Communication System Connector for Facebook to Post a Reply

Receive Customer Reply for Immediate Callback

Pivot Offer Module Submits Request for Contact to Work Assignment Module

Work Assignment Module Selects an Appropriate Customer Support Agent and Instructs Communication System Connector for Telephony to Connect Customer Support Agent to Customer via the Telephone System

FIG. 3
Determine a Need to Pivot a Customer

Optimally Determine One or More Eligible Communication Channels

Enable the Customer to Select One of the One or More Eligible Communication Channels

Pivot the Customer to the Selected Eligible Communication Channel

FIG. 4
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8)- H04L 12/56; H04L 12/28 (2013.01).
USPC - 370/395.6
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC (8)- H04L12/56, H04L12/28 (2013.01)
USPC - 370/395.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC (8)- H04M3/00, H04M5/00 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patent and Google Scholar: search terms-customer client contact center switch pivot synchronous asynchronous communication channels private public customer data information score priority

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
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<tbody>
<tr>
<td>X</td>
<td>US 7,254,641 B2 (Broughton et al.) 07 August 2007 (07.08.2007), entire document, especially, col. 4, In 5 to col. 6, In 28; col. 7, In 29-41; col. 9, In 45 to col. 10, In 67; Figs. 1-2.</td>
<td>1-17</td>
</tr>
<tr>
<td>A</td>
<td>US 2012/0195422 A1 (Famous) 02 August 2012 (02.08.2012), entire document</td>
<td>1-17</td>
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* Further documents are listed in the continuation of Box C.

Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

Later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

Document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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