Methods, apparatuses, systems and services for One-stop solution to complement and reinforce compliance to the Do Not Call (DNC) Registry and Spam Control Act

Field of Invention

The embodiments of the present invention of methods, apparatuses, systems and services for One-stop solution to complement and reinforce compliance to the DNC Registry, Personal Data Protection Act (PDPA) and Spam Control Act, by facilitating the flow of mutual trust, convenient communication and database management between individuals and organisations. Refer to FIG. 1 for Overview of Flowchart diagram of an illustrative process of using the One-stop solution platform portal for the Organisations and Individuals according to embodiments of present invention.

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Background of the Related Art:

Advances in technology has resulted in an increasing numbers of unsolicited and undesirable telemarketing messages via electronic communication by emails, telephone voice calls, fax messages and mobile text messages, including Short Message Service (SMS) and Multimedia Messaging Service (MMS), due to large amount of personal data which are easily collected, used and even shared with third party organisations for various commercial and/or personal reasons. This phenomenon will continue to grow exponentially since technology helps simplify the process of handling vast amount of information such as personal data. This leads to concerns and complaints from individuals about how their personal data are being used.

It is essential to have a data protection act, such as the Personal Data Protection Act (PDPA) in Singapore and similar regulations in other countries, to safeguard the collection, care, use and disclosure of both electronic and non-electronic personal data, so as to address these individuals' concerns and to maintain public consumers' trust in organisations which manage personal data records. The PDPA understands the rights of individuals to protect their personal data, including rights to gain access and correct data, as well as, the needs of organisations to collect, use or disclose personal data for legitimate, business and reasonable purposes.

The PDPA started with the DNC Registry provisions on 2 January 2014 and the main data protection rules will start on 2 July 2014. The aim of the DNC Registry is to minimize the number of unexpected, undesired and unwanted telemarketing voice calls, mobile text messages and fax messages. The DNC Registry grants individuals and/or consumers the choice to register Singapore telephone numbers including mobile, fixed-line, home and business numbers, to opt out of receiving telemarketing messages via phone calls, mobile text messages, such as SMS or MMS, and fax messages from organisations.

The transition time frame is for organisations to examine and apply internal personal data protection policies and practices to comply with the PDPA. After this transition period, the PDPC can conduct investigations upon receiving any complaint or on its own reason to determine if an organisation is complying with the Act.

Organisation has to check that such telemarketing messages are not sent to Singapore telephone numbers registered with the DNC Registry, whether directly sending such marketing messages, causing the message to be sent or authorising another organisation to do so. If an organisation violates any of the data protection provisions in the PDPA, it may be given the directions to ensure compliance, which require the organisation to do the following actions, such as stop collecting, using or disclosing personal data in contravention of the Act; destroy personal data collected in contravention of the Act; provide access to or correct the personal data; and/or pay a financial penalty of an amount not exceeding $1 million, which can be costly and damaging to the reputation of the organisations. Refer below ~~to FIG. 2~~ for Table **1** showing comparisons on role of organisations sending marketing messages and role of this service provider platform portal with features & functions, which can help organisations according to the embodiments of this present invention.

Role of organisations sending marketing messages to Singapore telephone numbers:	**Role of service provider platform portal with features & functions to help:**
Check with the DNC Registry, unless organisations have the recipients' clear and unambiguous consent in written or other accessible form for sending the marketing message to the Singapore telephone number.	Providing clear, express and unambiguous consent in evidential form from the user, recipients or subscriber of the number on electronic form for organisations to send marketing message to the Singapore registered telephone number.
Organisations may also send a text or fax message (but not voice call) on related products, services and memberships to individuals with whom they have an on-going relationship (a series of one-off transactions does not constitute an on-going relationship), without the need to check the DNC Registry. In the telemarketing message, they are required to provide information on how individuals can opt out of such messages using the same medium by which the message is sent. Upon receiving an individual's opt-out request, they may no longer rely on the exemption and must stop sending such messages to that individual 30 days after the opt-out.	Although this platform portal does not help organisations to establish on-going relationship with individuals, it allows the individuals to opt in and/or out of marketing messages from the list of organisations anytime, by checking the "opt in" and/or "opt out" checkboxes for the "Consent to contact" via email and/or mobile text messages such as SMS and/or MMS. The organisations can keep track of such updates daily via automatic updates shown on account's past transaction history, or full report sent at end of the day via Excel file to organisations' emails, so that they can make changes to their contactable marketing list and ensure they comply with the PDPA.
If organisation is sending a text or fax message, include clear and accurate information identifying the organisation as well as contact details within the message. This allows the recipient to contact the organisation for clarifications, if necessary.	Organisations must provide their identities and contact details when listed on this platform portal website and when they send marketing messages to recipients, so as to allow transparency and remain contactable by consumers at all times.
If organisation is making a voice call, ensure that the calling identity, or phone number from which the message is sent out from, is not concealed.	"Consent to be contacted" on the platform portal allows individuals to choose the method of communication preferred, including voice call, mobile texts such as SMS/MMS text and/or email, while excluding fax messages.

~~FIG. 2.~~ Table **1** showing comparisons on role of organisations sending marketing messages and role of service provider platform portal with features & functions, which can help organisations according to the embodiments of this present invention.

Registration with DNC Registry is free and will not expire, so individuals who have registered their Singapore telephone numbers may simply register first and not allow any marketing messages from all organisations, or they may forget whether they have given any consent to be contacted by any organisations after some time has passed. Prohibited telemarketing messages normally have at least one of the following commercial purposes, which are the typical marketing methods widely used across different industries, such as offer to supply, advertise or promote goods or services; advertise or promote suppliers or prospective suppliers of goods or services; or supply, advertise or promote land, interests in land or business or investment opportunities. This broad definition of "telemarketing messages" has proved to be an obstacle for organisations, especially Small and Medium Enterprises, doing businesses in Singapore, since organisations now require more time, money and effort in mass marketing campaigns.

With the recently implemented PDPA governing the DNC Registry which limits the use of personal data in marketing messages, there have been many lost business opportunities and revenues are affected or reduced due to restrictions to reach out to a larger potential consumer population, especially for organisations with limited resources who are unable to invest heavily on expensive multi-media marketing methods.

Even with DNC Registry, there is still the possibility of breaches by organisations done knowingly or unknowingly, which are not reported by the public, due to the possibility of consumers and/or organisations not fully understanding the PDPA and/or are not educated in the process of filing a complaint. Therefore, the embodiments of this invention create a win-win situation for both the individuals and organisations by providing One-stop solution to solve some of the potential problems arising due to PDPA, by complementing the DNC Registry and Spam Control Act. Refer below for ~~to FIG. 3~~ Table **2** showing how the platform portal complements the concepts used by PDPA according to the embodiments of present invention.

Concepts used by PDPA on how personal data may be collected, used or disclosed by organisations:		**How the embodiments of this platform portal invention complements the PDPA & DNC Registry & Spam Control Act:**
Consent	Only with the individual's knowledge and consent, but with some exceptions.	Allows individuals to opt in and/or opt out of "Consent to be contacted" of marketing messages from organisations anytime via this platform portal or directly reply to organisations via medium used to send such messages. Organisations sending marketing messages must always give individuals the option to unsubscribe via the medium used to contact.
Purpose	Appropriate data for the circumstances, and only if they have informed the individual of the purposes for the collection, use or disclosure.	Allows individuals to choose to input types of personal data and method to be contacted. Secured registration and/or login account using One-Time-Password via medium of choice, the unique login identity must be either Singapore mobile phone number (to complement DNC Registry) and/or email address (to complement Spam Control Act), any other fields of personal data are optional. Only allows organisations who have received "Consent to be contacted" replies from individuals to contact via choice of medium for marketing messages.
Reasonableness	Only for purposes that would be deemed appropriate to a reasonable person in the given circumstances.	In most situations, organisations only need personal data such as mobile phone number and/or email address to convey marketing messages. All other personal data is not needed unless the individuals choose to become a member of that organisation.

~~FIG. 3~~ Table **2** showing how the platform portal complements the concepts used by PDPA according to the embodiments of present invention

No similar prior art can be found on World Intellectual Property Organization (WIPO) or the internet on using a secured One-solution platform portal with classified directory of local organisations, which is available for individuals to easily select organisations to opt in and/or opt out of receiving marketing messages anytime, without the hassle of contacting the organisations one by one, thus, saving time and money for both individuals and the organisations. The only current and prior art which is DNC-related are mostly on those technology related on automatic blocking of DNC contact lists, report immediate complaining system to enforce the DNC Registry and hidden DNC-registered telephone numbers.

Please refer to the PDPA's main website at http://www.pdpa.gov.sg/home for more details.

Summary on Field of the Invention:

The embodiments of the present invention of methods, apparatuses, systems and services for One-stop solution to complement and reinforce compliance to the DNC Registry, PDPA and Spam Control Act, by facilitating the flow of mutual trust, convenient communication and database management, relating to individuals' searches for local organisations and transactions on requests to opt in and/or out of marketing messages, using classified directory database marketing platform for organisations to showcase and market products and/or services in a secured service provider portal for organisations and public individuals and/or consumers to create, update and maintain digital databases, including personal data records of the individuals and/or consumers and corporate data records of organisations, especially regarding the DNC Registry, so that individuals can easily access and opt in and/or opt out of any number of organisations in this One-stop platform portal anytime, monitor their past transaction history and address the problem of individuals forgetting whether they have opt in or out of which organisations. The embodiments of this useful and innovative platform portal will provide solutions to the potential possible or future problems created since implementing DNC Registry and problems related to Spam Control Act. Refer to FIG. 1 for Overview of Flowchart diagram of an illustrative process of using the One-stop solution platform portal for the Organisations and Individuals according to embodiments of present invention.

In an embodiment of this present invention of a method, apparatuses, systems and services, for complementing the DNC Registry and Spam Control Act, by reducing unwanted telemarketing calls, fax and text messages and emails, comprising of a platform portal, which is available online and its mobile applications, which can be downloaded online into users' mobile devices such as mobile phones and tablets, personal laptops or computers. The platform portal is for individuals and/or consumers from the public, to register a free account as members to input personal data and select communication modes, which they are comfortable to give consent to be contacted by organisations regarding marketing messages, update and manage own accounts, including personal data.

In another embodiment of this present invention of a method, apparatuses, systems and services to complement DNC Registry and Spam Control Act, comprises the process of an individual registering for a free account via the online platform portal and/or downloaded mobile applications which are installed into mobile devices. Individuals will select his or her preferred communication modes, which is using either own email address and/or Singapore registered mobile phone number as the unique login identity. The secured system issues One-Time-Password (OTP) to the respective email and/or mobile phone number, according to the medium chosen to apply with and that individual must input the OTP before proceeding to account login. This process must be repeated at every subsequent login either online or through the downloaded mobile applications which are installed into the mobile devices, in order to maintain high security measures and authenticate him or her as the real account owner of the mobile phone number and/or email address.

In an embodiment of this present invention of a method, apparatuses, systems and services, comprises a portal for the members to easily opt in and/or opt out of marketing messages anytime, by selecting which organisations to opt in and/or opt out of receiving marketing messages via a Search engine available on the online platform portal or the mobile devices installed with mobile applications, either from specific organisations and/or categories, based on members' preferences or interests or other reasons, which can change over time due to change in life stages.

In another embodiment of this present invention of a method, apparatuses, systems and services, comprises of members' platform portal available online and on the installed mobile applications on the mobile devices, which allows the members' account to generate a transaction history, whenever there is an action of opt in and/or opt out and to view their past transaction history on previous opt in and/or opt out actions on which organisations and/or categories.

In some embodiments of this present invention of a method, apparatuses, systems and services, comprises of registered organisations' (corporate members) account, which is available online and on mobile devices installed with the mobile applications, which allows them to receive requests of opt in and/or opt out from individuals at real time in the accounts' transaction history or receive a full report at the end of the day via corporate email if there is any requests for that day, process their requests by sending an notification to acknowledge the individuals' requests and update accordingly in the contact list groups of either contactable or not contactable groups in the database. The organisations can generate a transaction history from the account, whenever there is a requests of opt in and/or opt out from individuals, to view their past transaction history on previous opt in and/or opt out actions by individuals and save a copy of the history in Portable Document Format (PDF).

In another embodiment of this present invention of a method, apparatuses, systems and services, comprises of members' platform portal, which is available online and on mobile devices installed with the mobile applications, which allows the members to tick on the "Unsubscribe" checkbox shown besides past transaction history to easily unsubscribe to previous opt in and/or opt out actions. This simplifies the "undo" process and saves time that is needed to search for those organisations using Search Engine.

In the embodiment of this present invention of a method, apparatuses, systems and services, comprises of a classified directory of businesses or organisations, which is available online and on mobile devices installed with the mobile applications, showing their contact details and latest promotions, as well as, allows individuals and/or members to opt in and/or opt out of "Consent to be contacted", by ticking on "Opt in" and/or "Opt out" checkbox shown on all organisations' business profile.

In an embodiment of this present invention of a method, apparatuses, systems and services, comprises of a classified directory of businesses or organisations, which is available online and on mobile devices installed with the mobile applications, which allows public users such as individuals and/or members to choose which communication modes to opt in and/or opt

out of receiving marketing messages. Users can either enter “email address” and/or the “mobile phone number”, then tick checkboxes to receive via “voice calls” and/or “text messages (including SMS and/or MMS) if using mobile phone number for the communication. This is shown below the “Consent to be contacted” on all organisations’ business profile.

In the embodiment of this present invention of a method, apparatuses, systems and services, comprises of a classified directory of businesses or organisations, which is available online and on mobile devices installed with the mobile applications, allows visitors who are non-members to automatically become members of the portal, when they choose to opt in and/or opt out of “Consent to be contacted”, by ticking on the “Opt in” or “Opt out” checkbox shown on all organisations’ business profile on the classified directory, followed by entering “email address” and/or the “mobile phone number” as the unique login identity, then tick checkboxes to receive via “voice calls” and/or “text messages (including SMS and/or MMS) if using mobile phone number for the communication. Once visitors click “Submit”, system issues OTP from server to visitors’ designated unique login identity and must input the OTP to proceed with action to opt in and/or opt out, and automatically login to member’s account.

In another embodiment of this present invention of a method, apparatuses, systems and services, comprises of a classified directory of businesses, which is available online and on mobile devices installed with the mobile applications, allows organisations to register as member and create an account, based on the types of plans and features chosen for the business profile published on the classified directory for the public and/or members to opt in and/or opt out of marketing messages.

In another embodiment of this present invention of a method, apparatuses, systems and services, comprises of a classified directory of businesses, which is available online and on mobile devices installed with the mobile applications, allows registered organisations to create a personalised business profile, similar to a summarised version of all essential information, comprising of organisation information and marketing messages but not limited to the following materials, such as contact details, announcements such as promotions, opening of new outlets or closed for holidays, website links such as the main homepage and online shop, category of business and/or products and services, business types, upload organisation logo and upload images such as coupons and brochures for public to use, create electronic forms such as feedback forms, memberships form, lucky draw forms and survey forms, which are all available for the public visitors and members, to view all the information on the business profile and/or use the coupons at the online shop and/or in-stores.

In some embodiments of this present invention of a method, apparatuses, systems and services, comprises of mobile applications, the mobile applications which are downloaded and installed into mobile devices are able to perform all the above embodiments and can be available online and/or offline modes. However, users need to be online when they need to download the mobile applications into their mobile devices, when they want to view real-time updated information on the platform portal and when they need to synchronize the mobile

applications with the platform portal, whenever there is any changes made to their account that need to be updated with the system.

Refer to FIG. ~~4~~ **2** showing the Flowchart of One-stop solution platform portal for personal data management according to the embodiments of this present invention.

Brief description of the drawings

Illustrative embodiments of the present invention are described in details below with reference to the attached drawing figures:

FIG.1 Overview of Flowchart diagram of an illustrative process of using the One-stop solution platform portal for the Organisations and Individuals according to embodiments of present invention;

FIG. 2 Table showing comparisons on role of organisations sending marketing messages and service provider platform portal with features & functions, which can help organisations according to the embodiments of present invention;

FIG. 3 Table showing how the platform portal complements the concepts used by PDPA according to the embodiments of present invention;

FIG. ~~4~~ **2** Flowchart of One-stop solution platform portal for personal data management according to the embodiments of present invention;

FIG. ~~5~~ **3** Flowchart of Registration module according to an embodiment of present invention;

FIG. ~~6~~ **4** ~~Flow chart~~ **Flowchart** showing problems and solutions to the DNC Registry and Spam messages according to the embodiments of present invention.

Detailed description

The present disclosure relates to the embodiments of this present invention of methods, apparatuses, services and systems to complement and reinforce compliance to Do Not Call (DNC) Registry and Spam Control Act, by creating One-stop solution, facilitating individuals' searches for organisations to opt in and/or opt out of marketing messages and providing past transactions history on requests to opt in and/or opt out of marketing messages, using a secured platform with classified directory of businesses and service provider portal for organisations and individuals, which includes but not limited to web-based, electronic, mobile, online and/or offline applications, to create, update, manage and maintain digital databases, including personal data records of the general public users, who are individuals and/or consumers and corporate data records of organisations, especially regarding the DNC Registry under the Personal Data Protection Act (PDPA) in Singapore and similar laws in other countries and states, so as to facilitate the flow of mutual trust, convenient communication, database management, such as updates on contact information by individuals and organisations, individuals requests to opt in and/or opt out of consent to be contacted by organisations, while organisations can manage their marketing messages lifecycle, such as advertisements, discounts, promotions, promotional codes, electronic brochures, electronic coupons, electronic forms, such as feedback, membership, lucky draws and surveys, using an online network management system, which can be accessed freely by public and this platform portal connects individuals, such as users or consumers and organisations in a more accurate, accessible, efficient, transparent, time-saving, up-to-date, secured, convenient and comfortable communication environment between the individuals and organisations.

There are underlying potential problems related to DNC Registry, such as individuals want to opt in and/or opt out of specific marketing messages from certain categories or fields based on personal interests which may change with time, but realise it is difficult and time-consuming to search for and contact the organisations one by one to give or remove consent, thus, may miss out informing some of the organisations regarding their latest choice of preference, so resulting in loss of potential revenues for these "forgotten" organisations; or some individuals gave or removed consent to some organisations since start of DNC provisions in January 2014, but have lost track and forgotten their past actions and find it troublesome to contact these organisations one by one to check status of consent and personal data; breaches may go unnoticed as individuals may not report any breaches due to the fact they are not sure about the process to complain and/or not fully understanding the PDPA and DNC Registry, and in event of a complaint, organisations have the "benefit" since they usually have records and have the chance to tamper with the database due to the fear of penalties involved and complaining individuals are at a "disadvantage" since they may have accidentally deleted the marketing message or call logs and have no record to show proof upon request.

On the other hand, it is also possible for individuals to accuse organisation of a breach as they have forgotten whether they given any consent to that particular organisation, resulting in loss of trust, thus, resulting in unfair treatment for that organisations from the authorities. These

are just some examples of potential problems likely to arise in the future or have started since implementing DNC Registry. The list of problems can be hidden, far-fetched and unlimited.

With the embodiments of this present invention, both organisations and individuals can have a peace of mind since they can access their past transaction history in this unbiased and mutual service provider platform, in the event of a complaint. This embodiments of this present invention aims to solve underlying problems while complementing DNC Registry and Spam Control Act, by providing One-stop solution as a secured service provider portal for organisations and individuals on a classified businesses directory platform, using an online network management system and database marketing according to individuals' preferences, thus, improving the overall efficiency and effectiveness of marketing products and services, as marketing messages are only conveyed to individuals, who are interested in the products and/or services by those organisations that they have given consent to be contacted, hence reducing unwanted telemarketing and spam messages.

Those individuals who do not wish to leave any personal data are allowed to visit our platform without registering an account, as public can still access the website portal without being a member, continue to view and benefit from the promotions available from all organisations listed on the classified directory on the platform portal.

In order for the embodiments of this invention of One-stop platform portal to complement PDPA, individuals should register their Singapore telephone with DNC Registry first, then proceed to our website to use the members' portal directly or download the mobile applications into their mobile devices, in order to perform the necessary actions such as manage own personal data, update preferences to choose which categories or organisations to opt in or opt out of receiving marketing messages and view past transaction history.

Once they enter their personal account, they can fill up individual personal data, such as name, email and birthday dates if they like to enjoy birthday-related promotions, but all fields are optional, except for the medium they wish to receive marketing messages. If they only want to receive such messages via email, they only need to enter their email and no telephone number is needed. This is to complement the Spam Control Act and reduce spam messages. If they only want to receive via mobile phone number, they need to choose the communication modes via voice calls and/or text messages and enter the Singapore registered mobile number to comply with DNC Registry. If they want to receive such messages via mobile phone number and email, they will need to fill up both fields, to comply with DNC Registry and Spam Control Act.

The benefits of the embodiments of this present invention are not limited to the individuals, but can also help organisations. This is a win-win situation for both consumers and organisations and in the long run, this type of targeted database marketing on potential consumers, who have indicated interests on the products and/or services would enable individuals to receive only useful and related marketing messages via the mode of communication they prefer to be contacted, thus, reducing spam messages, as well as, help

organisations save time and money to reach out to potential consumers and on unnecessary expensive multimedia advertisements.

The principles of the present invention utilize a classified directory of businesses with products and/or services which need non-stop marketing and the platform portal allows organisations to register account online with an annual subscription fee, in order to create a business profile on the platform, which serves as a summarised version of essential information, which includes but not limited to the following information, such as the contact details of the business, business registration number, name, category of products and/or services, announcements (such as any promotions including promotion codes, opening new outlet, change of opening hours or closed for holidays etc.), upload organisation logo, photos and/or scanned documents such as brochures or coupons (which is available to public to view and use at online shop or in-stores), electronic forms such as feedback, membership, lucky draw and survey, a hyperlink to their website homepage or online shop (for visitors and/or members to visit, shop and use promotion codes shown on "Announcements") and most importantly, option for individuals to opt in and/or opt out of " Consent to be contacted" to receive marketing messages and via which modes of communication.

Account opening requires the organisations' name, contact details, business address and business registration number. By opening an account, organisations will be able to perform the above actions and get informed immediately via account transaction history of any requests from individuals regarding their "Consent to be contacted" and the modes of contact (option of voice calls and/or mobile text messages). Organisations will have a record in their account showing daily updated requests, past transaction history and can update their internal marketable contact list to comply with PDPA. If organisations wish to receive a daily update at the end of a time frame, such as end of the day or week, via Excel file to their own corporate email instead of the organisations' portal account email, the system can also perform the requests for compiled results.

In order for the embodiments of this invention to complement DNC Registry, individuals must register their Singapore mobile phone numbers with DNC Registry first, else in the event of a breach where organisations sent marketing messages, the individuals cannot file a complaint as they are not listed on the DNC Registry for the act to apply on the organisations.

Individuals who are DNC-registered can then proceed to this platform portal to open account and join as member for free; registration can be done easily with minimum personal data, by using either their Singapore mobile phone numbers registered with DNC Registry or email address as the unique login identity. To ensure security and confirm proof of account holder of the mobile number and/or email, the system issues a single One-time-password (OTP) which will be sent to the medium (mobile phone number or email) used to register this account for account opening and for every login. Individuals must input the OTP sent to them on a pop-up box asking for the OTP, to proceed to sign-up and/or login. Once account is opened, individuals can login via the unique login identity chosen and OTP will be sent at every login, they can choose to input other optional personal data, such as email (if they initially registered using mobile phone number), name, birthday date if they wish to receive

promotions related to birthday. If they initially registered using the email address, they can input their mobile phone numbers if they like to receive marketing messages through this mobile phone number as the medium of communication and then select the modes of communication via mobile phone number, which can be voice call and/or text messages, which includes MMS and SMS. Refer to FIG. ~~5~~ **3** for Flowchart of Registration module according to an embodiment of present invention.

The default setting is via text messages for individuals who did not select or forget to select as it is believed that voice calls tend to be more undesirable and can be more disturbing to recipients. If members fill up both mobile phone number and email address in the account, they can login account via either medium of communication, so long as they input the OTP, which will be sent to the medium they use as the unique login identity for account login.

Members can go to the classified directory to search and select fields of interest or categories to opt in and/or opt out. Search can be done via alphabetical order, categories, names of business or products and/or services. The purpose of the embodiments of this invention is in line with the DNC Registry, since individuals should have registered their phone numbers to stop receiving marketing messages from at least 1 mode of communication (voice calls, text or fax messages), so default setting is for members to select opt in to receive marketing messages. One such scenario for members to save time is to login first, then tick "Select all opt-in" checkbox and uncheck all those categories which they are want to opt out of receiving marketing messages, then click "Next" to proceed to confirm the lists of organisations that members are giving "Consent to be contacted", check and ensure there is no error then click "Ok" to confirm. A confirmation message will be sent to transaction history in members' account and the respective organisations' account on this portal. The organisation chosen by members to send marketing messages will also receive a confirmation message at the same time and/or receive a full report at end of the day of all requests to opt in and/or opt out.

It is the organisations' duty to acknowledge individuals' requests to opt in by sending them a notification that their "consent to be contacted" has been received and will be receiving marketing messages from this date on, and inform them that unless they chose to unsubscribe via the medium of communication initially approved to send marketing messages, they will continue to receive marketing messages. It is also the organisations' duty to notify those individuals who opt out that they have received the "opt-out" requests and acknowledge requests to opt out of receiving marketing messages from that date on.

For members who have previously given consent to some organisations, but now decided to remove consent due to change in preference or other reasons, can also do so on this platform portal. As it is unlikely that members gave consent to too many organisations since DNC Registry is implemented recently, they can login first, then search for those organisations by name, tick the checkbox "opt out" for Consent to be contacted of all those organisations that members now want to remove consent. Click "Next" to confirm the lists of organisations that members are removing "Consent to be contacted", check and ensure there is no error then click "Ok" to confirm. A confirmation message will be sent to transaction history in members' account. The organisation chosen by members to stop sending marketing messages

will also receive a confirmation message at the same time and/or receive a full report at the end of the day of all requests to opt in and/or opt out. It is the duty of the organisations to check carefully the messages that are sent to them to notify them of the changes of individuals' consent to opt in and/or opt out of receiving the marketing messages and update accordingly to avoid delays, confusion or breach of DNC Registry. Organisations should take the extra effort to inform individuals that they have received the notifications and will update their requests accordingly to comply with PDPA.

Members have two methods to opt in and/or opt out of consent anytime, they can choose to opt in and/or opt out via the classified directory by checking the appropriate checkbox of their preference or via individual's account transaction history, which give them the choice to tick the "Unsubscribe" checkbox to previous "opt in" or "opt out". Thus, saving time spent on searching that organisation from the classified directory.

If a visitor decided to opt in and/or opt out of "Consent to be contacted" of a specific organisation, he or she can do so on the classified directory, search and select that organisation, fill in the box asking for mobile phone number and/or email address as the unique login identity and as medium of communication, if visitor choose mobile phone as medium then he or she must indicate mode of communication which is via voice call and/or mobile text messages, tick the checkbox to "opt in" or "opt out", if this is left uncheck, default setting will be mobile text messages, click "Next", OTP sent to choice of medium, a pop-up box will prompt the visitor to input the OTP, in order to proceed with action to opt in or out. By doing so, the visitor automatically becomes a member and is considered as account sign-up and sign-in; his mobile phone number and/or email address will be his unique login identity for his member's account.

The sign-up and/or sign-in processes are inventive steps as this method allows individuals, who are initially non-members and non-consumers, to register their mobile phone number as the unique login identity and receive an OTP to ensure security and proof of identity as owner of that mobile phone number, input OTP to proceed account activation and/or at every account login; or use an email address as login identity, receive OTP via email, input OTP to proceed account activation and/or each account login. This is an essential security measure to prove identity, comply with PDPA and complement the DNC Registry. The method using email address also helps to solve problems related to email spamming and comply with the Spam Control Act.

The prior similar art is the case of telecommunication companies, which already have personal data of consumers who have purchased products and/or services from the telecommunication shops, so it is obvious to expect existing members and/or consumers to use mobile phone number or identity number as login identity; and then sending the OTP to the mobile phone number, for them to login to existing consumers' member account.

If a member did not login, but wanted to opt in and/or opt out of "Consent to be contacted" of a specific organisation, he or she can do so on the classified directory, the actions required

will be similar to the visitor's case shown above. The transaction history will still show the action done via this method.

All transaction history can be saved as Portable Document Format (PDF) files for individuals and organisations to keep a record. This is important especially for individuals who want to delete account, as all data maybe lost after account deleted, so it is the duty of individuals to ensure they have saved a copy for future reference. Individuals can delete their account anytime, by clicking on "Delete account", system will prompt for confirmation, click "Confirm" and by doing so, the individual is no longer a member, unless he or she choose to sign-up or login again.

Therefore, it is timely and essentially useful to have the embodiments of this invention and/or inventive steps to complement and reinforce compliance to the DNC Registry and Spam Control Act, simplify the method for individuals to monitor their own transaction history of opting in and/or out of marketing messages from selected organisations and allow organisations to comply with PDPA by updating the requests or replies from the public on whether they opt in and/or opt out of their "Consent to be contacted". Refer to FIG. ~~6~~ **4** on ~~Flow chart~~ **Flowchart** showing problems and solutions to the DNC Registry and Spam messages according to the embodiments of present invention.

Claims

1. A method, apparatuses, systems and services, for complementing and reinforcing compliance to the DNC Registry and Spam Control Act, by reducing unwanted spam emails, telemarketing calls and text messages, comprising of a platform portal,
    a. available online or;
    b. via mobile applications;
        - downloaded online and;
        - installed into mobile devices;
    c. for public users such as;
        - individuals and/or;
        - consumers,
    d. register a free account as members;
    e. input personal data;
    f. update and;
    g. manage own accounts;
    h. select personal data;
    i. select communication modes;
    j. which individuals are comfortable to give consent to be contacted by organisations regarding marketing messages.

2. A method, apparatuses, systems and services to complement DNC Registry and Spam Control Act, according to claim 1, which comprises the process of ;
    a. Public users, who are individuals, registering for a free account via;
    b. online platform portal and/or;
    c. mobile applications;
        - downloaded;
        - installed into mobile devices;
    d. select individuals' preferred communication modes;
    e. input unique login identity;
        - email address and/or;
        - Singapore registered mobile phone number
    f. secured system issues One-Time-Password (OTP) to the respective;
        - email address and/or;
        - mobile phone number;
    g. according to the medium chosen to apply with;
    h. individual must input the OTP before proceeding to account login;
    i. process must be repeated at every subsequent login;
    j. either online or;
    k. through mobile devices installed with mobile applications;
    l. maintain high security measures and;
    m. authenticate that individual as the real account owner of;
        - mobile phone number and/or;
        - email address.

3. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 1, which comprises members' portal, for the members;
    a. to easily;
        - opt in and/or;
        - opt out of receiving marketing messages anytime;
    b. by selecting which organisations;
        - opt in and/or;
        - opt out of receiving marketing messages;
    c. via a Search engine;
    d. available on the online platform portal or;
    e. mobile devices installed with mobile applications,
    f. from specific organisations and/or;
    g. categories based on members'
        - preferences;
        - interests or;
        - other reasons;
        - changes over time due to changes in life stages.

4. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 3, which comprises members' platform portal;
    a. available online;
    b. mobile devices installed with mobile applications;
    c. system notifies;
        - members and;
        - organisations of actions done;
    d. system generates a transaction history in account:
        - members' and;
        - organisations';
    e. whenever there is an action of;
        - opt in and/or;
        - opt out;
    f. save a copy of past transaction history in Portable Document Format (PDF);
    g. view their past transaction history on previous actions;
        - on which organisations and/or;
        - categories;
            - opt in and/or;
            - opt out.

5. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 1, which comprises of Organisations' Portal;
    a. registered organisations users (corporate members) account;
    b. available online and;

c. mobile devices installed with the mobile applications;
d. allows organisations to receive real-time requests from individuals;
    - opt in and/or;
    - opt out;
e. daily updates for transaction history in Organisations' accounts or;
f. receive a full report;
    - via Excel file;
    - at the end of the day;
    - via corporate email, if there is any requests for that day;
g. system
    - notifies organisations of any requests from individuals;
    - generates a transaction history in the account;
h. whenever there is a requests of;
    - opt in and/or;
    - opt out from individuals;
i. view their past transaction history on previous;
    - opt in and/or;
    - opt out actions by individuals and;
j. save a copy of past transaction history in Portable Document Format (PDF);
k. after receiving the requests, system will send reminders to organisations' account to remind them to;
    - process individuals' requests;
    - send an notification to individual;
    - acknowledge the individuals' requests;
l. organisations update accordingly in their database for the contact list groups;
    - contactable list or;
    - "Do Not Call" list.

6. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 4, which comprises of members' platform portal;
    a. available online and;
    b. mobile devices installed with the mobile applications;
    c. allows the members to check on the "Unsubscribe" checkbox;
    d. shown besides past transaction history;
    e. easily unsubscribe to previous actions;
        - opt in and/or;
        - opt out;
    f. simplifies the "undo" process;
    g. saves time needed to search for those organisations using Search Engine.

7. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 1, comprising of;
    a. classified directory of businesses or organisations;

b. available online and;
c. mobile devices installed with the mobile applications;
d. showing organisations' Business profile, which allows;
    - individuals and/or ;
    - members;
e. request "Consent to be contacted";
    - opt in and/or;
    - opt out;
f. by checking on checkboxes to;
    - "Opt in" and/or;
    - "Opt out";
g. Notifications sent to account transaction history;
    - organisations and;
    - individuals.

8. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 7, comprises of a classified directory of businesses or organisations;
    a. available online and;
    b. mobile devices installed with the mobile applications;
    c. allows public users such as;
        - individuals and/or;
        - members;
    d. choose which communication modes to receive marketing messages;
        - opt in and/or;
        - opt out;
    e. enter unique login identity;
        - "email address" and/or;
        - "mobile phone number";
    f. tick checkboxes to receive marketing messages, if using mobile phone number for the communication via;
        - "voice calls" and/or;
        - "text messages;
            - SMS and/or;
            - MMS;
    g. shown at "Consent to be contacted" on all organisations' business profile.
    h. Notifications sent to account transaction history, if any requests done;
        - organisations and;
        - individuals.

9. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 8, comprises of a classified directory of businesses or organisations;

a. available online and;
b. on mobile devices installed with the mobile applications;
c. allows visitors, who are non-members;
d. automatically become members of the portal;
e. when they choose to act on "Consent to be contacted";
    - opt in and/or;
    - opt out of
f. by checking on the checkboxes shown on organisations' business profile on the classified directory :
    - "Opt in" and/or;
    - "Opt out";
g. enter unique login identity;
    - "email address" and/or;
    - "mobile phone number";
h. tick checkboxes if using mobile phone number for the communication via:
    - "voice calls" and/or;
    - "text messages;
        - SMS and/or;
        - MMS;
i. once visitors click "Submit";
j. system issues One-Time-Password (OTP) from server;
k. to visitors' designated unique login identity;
l. visitors must input the OTP into the pop-up box;
m. to proceed with action:
    - opt in and/or;
    - opt out,
n. automatically:
    - sign-up as member and;
    - login to member's account.

10. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 7, which comprises of a classified directory of businesses;
    a. available online and;
    b. on mobile devices installed with the mobile applications;
    c. allows organisations;
        - register as member and;
        - create an account;
    d. based on the types of
        - plans and;
        - features chosen for the business profile;
    e. business profile published on the classified directory;
    f. receive requests for action on marketing messages;
        - public (non-members) and/or;

- members;
  - opt in and/or;
  - opt out.

11. A method, apparatuses, systems and services, to complement DNC Registry and Spam Control Act, according to claim 10, comprises of a classified directory of businesses;
    a. available online and;
    b. on mobile devices installed with the mobile applications;
    c. allows registered organisations to create;
        - personalised business profile;
        - summarised version of all essential information;
    d. all the information on the business profile are available for viewing for;
        - public visitors and/or;
        - members;
    e. comprising of organisation information and;
    f. marketing messages but not limited to the following materials, such as;
    g. contact details, such as;
        - Business name;
        - Business type/ field;
        - Category of products and/or services;
        - Registration number
    h. Announcements, such as;
        - promotions;
        - opening of new outlets;
        - closed for holidays;
    i. website links, such as;
        - main homepage;
        - online shop;
    j. upload organisation logo and;
    k. upload images related to promotions, such as;
        - coupons;
        - brochures;
    l. for public visitors and/or;
    m. members can use promotion-related materials at;
        - online shop and/or;
        - in-stores
    n. create electronic forms such as;
        - feedback forms;
        - membership form;
        - lucky draw forms and;
        - survey forms;

12. A method, apparatuses, systems and services, for complementing the DNC Registry and Spam Control Act, by reducing unwanted spam emails, telemarketing calls and text messages, according to claim 1 to 11, comprising of;
    a. "One-stop solution" mobile applications,
        - downloaded from online and;
        - installed into mobile devices;
    b. able to perform all the above claims 1 to 11 embodiments;
    c. available;
        - online and/or;
        - offline modes.
    d. users need to be online;
        - when they need to download the mobile applications into their mobile devices;
        - when they want to view real time updated information on the platform portal and;
        - when they need to synchronize the mobile applications with the platform portal,
        - whenever there is any changes made to their accounts, which need to be updated with the system.