

MANAGEMENT OF FOOD / MEDICINES / DRUGS AND OTHER PRODUCTS GOVERNED BY EXPIRY DATES

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INTRODUCTION TO THE PROBLEMS & ASSUMPTIONS

The expiry dates on Food/Medicine/Drugs and other Consumable Products is often etched on the container or printed in very small letters and/or often in a form which is unreadable or undetectable. This can be hazardous to health if such products are consumed or used in any manner after its expiry date. Two very simple solutions are suggested in this paper to circumvent this problem of expiry dates and if possible prevent a mishap. It is assumed that the detection of an expired product is not possible using our ordinary senses of smell, touch, sight, taste etc. and that the expiry date is encoded on the product label in the form of a Barcode or RFID tag.

METHODS AND SOLUTIONS

Solution 1 (Normal Case):

When the product is purchased the date/time of the purchase can be noted down using some software on the computer or a suitable device and the expiry date scanned. If the user is making the purchase via a credit card, his/her mobile number is stored in our records else the mobile number of the user of the product needs to be recorded and/or stored. The server or computer of the shop/store can easily track the expiry date of such purchased goods and send friendly SMSs or reminders, quoting the product item/description and remind the user of a product either a couple of times prior or on the expiry date or after the expiry date forewarning the user of the product's use. The user could easily turn off this messaging scheme at his discretion or the store-keepers discretion either at the time of purchase or after the purchase using a simple messaging-reply scheme.

N.B. Under this scheme it is also possible to prevent/detect sale of expired goods/items at the time of purchase. This can lead to efficient stock keeping under real time.

In case of pharmaceutical prescriptions, the software can in addition send out timely dosage reminders.

Solution 2:

Here we assume the user is illiterate or infirm and can rely only on color/light signals (as in a traffic light) or the sense of touch only (warm against cold etc.). Again the home computer or some suitable device such as the mobile phone can download a suitable application which reads the RFID tag/Barcode on the product and alerts the user by a Red light or Emitting a warm signal to a sensor which can notify/forewarn the user against using the product or goods when the product/good is past its expiry date. This solution can also be used by a

person averse to the text messaging scheme outlined in Solution 1 and who needs a suitable hardware device for alerting him of the expiry date at his discretion.

Solution 3:

Sometimes it becomes necessary to use both Solution 1 and 2 together to remotely manage elderly people who have difficulty with their memory.

CONCLUSION

We conclude that there are certain products/goods which when consumed after a particular date/time after its manufacturing date can potentially be hazardous or injurious to the consumer and prove detrimental to his/her family.

IMPLICATIONS AND POTENTIAL APPLICATIONS

1. The solutions outlined here can foster trust, goodwill and a feeling of safety/well-being in the hearts/minds of the customer/consumer which can lead to increased sales, lesser wastage and greater efficiency.
2. By ushering an era of remote management of the elderly and infirm one can save on Personal Care and Nursing costs with the same ease, convenience, efficiency and more precise management, at least the mundane day-to-day costs except for emergencies. This could result in more savings on costs and time for the Caretakers on a day-to-day basis and ensuring the comfort of their own homes for the elderly/infirm.
3. Avoid costs of printing two dates, manufacturing date and expiry date when one can do with one date.
4. Will smoothen out supply chain logistics by efficient removal of expired products/goods in the supply chain.
5. Monitoring of expiry dates of products/items will potentially give us a better handle on the demand supply economics game for such products/items.

SUMMARY AND SCOPE FOR FURTHER RESEARCH

As is borne by the implications and potential applications, the scope of Management of Products/Items governed by Expiry dates could be to support a virtual industry in this case. And when there is a virtual industry there is tremendous scope for further research, especially for life saving medicines/drugs and for the pharmaceutical industry in general.