

# SMS Management System for Direct Sales and Network Marketing

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**Abstract** - *SMS management system in direct sales and network marketing is a concept of integrating information system with mobile phone as well as using short message service (SMS) as a medium of communication in the business process of direct sales and network marketing sector. Direct sales and network marketing sector is a business phenomenon which expanding rapidly within these few years and it will keep on expanding. To deal with the large members and distributors joining the company, the management of these companies started to seek for new direction in upgrading the relationship management between the company and the distributors. This is important when the low cost and time saving SMS is introduce to these direct selling companies. With the intention of enhancing the connection between distributors is an opportunity to integrate SMS system in the management system in this industry. In this paper, we have analyzed how the SMS will play an important role in the business process by allowing the end user and the company will benefit from its simple and cost saving.*

**Keywords:** SMS management system, SMS, Direct sales and network marketing, Mobile phone, Distributor.

## 1 Introduction

SMS Management System is a concept of integration of mobile technology with information management system. Short messaging services in mobile technology as a tool to integrate in SMS management system in direct sales and network marketing. Direct sales and network marketing sector chosen as environment to implement this integration because of the rapid expand concept in network marketing. Connection with distributor is an opportunity to introduction SMS as a fast and cost saving tools with toughing able tools.

SMS management system in direct sales and network marketing is to integrate SMS as a tool in managing direct sales and network marketing company. SMS management system for direct sales and network marketing is a two ways SMS that able to send and receive SMS by distributors and company itself. Data warehouse which associate with stock management system, purchase system and bonus calculate provide

updated information to distributor anytime and anywhere the distributor retrieve it by SMS messaging. No matter where distributors are, information's they need are at their glance.

Direct sales and network marketing require a good relationship management within distributors [3]. They are encouraging to build and manage their sales force by recruiting, motivating and training others to sell the product or services. A percentage based on the sales of a person sales force would be their compensation, in addition to personal sales [10].

SMS text messaging is the most exciting and cost effective direct marketing and connecting method available to direct sales and network marketing. SMS management system can create one-on-one communications within multi-level market. SMS effective in improve market response, add value to DRM (distributor relationship management) strategy, and increase recognition of marketing product. Direct sales and network marketing might take the advance of SMS to build SMS into direct sales marketing and connecting strategy.

## 2 Literature Review

### 2.1 SMS Technology

The SMS technology was created in Europe, by GSM pioneers [1]. The standardization process is lead by the European Telecommunications Standards Institute (ETSI) [1]. The SMS technology was created to provide an infrastructure for the transportation of short messages containing a maximum of 140 bytes (8 bit objects) of useful data in mobile telecommunication networks. The transportation is done in the GSM signaling path in traditional GSM networks, and as GPRS packets in GPRS networks. The messages are composed using the PDU specification. An SMS is a binary string that contains all the necessary information to form the message header needed for transportation and the message body that contains the payload. The basic addressing scheme of SMS messages are mobile telephone numbers called mobile station integrated services digital network (MSISDN) [8].

## 2.2 Direct Sales and Network Marketing

Network marketing is a business in which a distributor network is needed to build the business. Usually such businesses are also multi level market in nature in that payouts also occur at more than one level. Network marketing is sometimes also used incorrectly to indicate that the business uses a network of product suppliers in order to offer a broader selection of products. It is usually used this way to differentiate themselves as a way to suggest that their program is superior to other such programs [10].

Multilevel Marketing, or MLM, is a system for selling goods or services through a network of distributors [2]. Direct sales and network marketing adopt the concept of MLM. The typical Multilevel Marketing program works through recruitment [2]. A person invited to become a distributor, sometimes through another distributor of the Multilevel Marketing company's products and sometimes through a generally advertised meeting [3]. Distributor will earn money both through the sales of the MLM's products and through recruiting other distributors, by receiving a portion of the income these distributors generate [10].

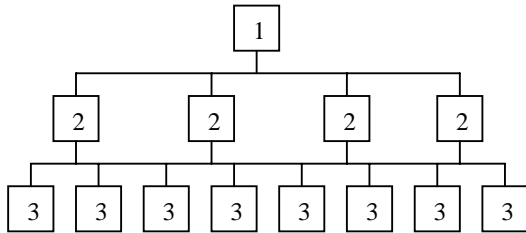


Figure 1. Distributor hierarchy in MLM [4]

## 3 Related Work

### 3.1 Proposed System Architecture

There are four main modules in SMS management system for direct sales, which base on the main activities in the business process in case study direct sales company. The first module is registration, customer register as distributor, and distributor recruit new distributor as their sales force in down line. The second module is selling product. The third module is bonus calculation, which means the profit of calculation percentage in sales force on multi level. The fourth activity is group SMS modules that send out news regarding activities and seminars to motivate and recruit as many as distributor in sales force.

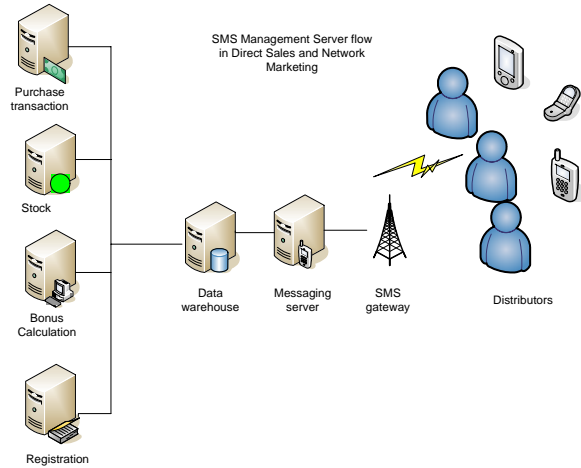


Figure 2. Proposed system architecture

#### 3.1.1 Registration Module

In this module, a customer sends a SMS to request for registration. SMS receive by SMS server and pass to customer panel to create a new customer. Customer panel pass the customer information to database. Database will return data query done to customer panel. Finally, customer panel will send a SMS to acknowledge of success or failure to customer through SMS gateway. Time take less than 2 minutes in the whole processing process. In the same time, point value will updated to up line tree distributors database and the bonus panel will verify whether the status of distributors can increase to upper title and status or not.

#### 3.1.2 Purchasing Module

In this module, a distributor sends a SMS to create an order. SMS receive by SMS station server and pass to order panel. Order entry will get agent detail from distributor management. Order entry will create order with account management. Order entry place the item order to account management. After order item place, bonus will automatic update to database. Item purchased will automatic to database. Order entry will acknowledge distributor after the order process complete by sending a SMS through SMS gateway. Time take less than 2 minutes in the whole processing process. In the same time, amount bonus will updated to up line tree distributors database.

#### 3.1.3 Bonus Module

In this module, a distributor sends a SMS to request for bonus calculation. SMS receive by station and pass to bonus panel to request bonus analysis. Bonus panel get agent detail from agent management. Bonus panel pass the query bonus to database, database return with bonus info to bonus panel. Bonus panel send the bonus calculation to distributor through SMS.

### 3.1.4 Group SMS Module

In this module, a distributor send a SMS to request for group SMS. SMS receive by SMS server and pass to group SMS panel to request for group SMS. Group SMS panel checks the agent validation at agent management, agent management return the checking query. Group SMS panel requests group agent from database, database return with group agent list. Group SMS panel returns request acceptance to SMS server. SMS server distributes SMS to group selected. SMS server send a SMS to acknowledge distribute success or failure for the group SMS request.

This also cover alert scribe, a distributor send a SMS to subscribe alert service. Alert subscribe panel will check the agent to the distributor management, distributor management return back with validation. Alert subscribe send a new alert subscribe query to database, database return with subscribe done. Alert subscribe acknowledge agent with automatic SMS through SMS gateway. Any news, seminar and product alert will automatic send to agent after subscribed.

## 4 Methodology

### 4.1 Two Way SMS

Two Way SMS enables distributor not only to send SMS request to the SMS management system, it is also capable to receive SMS replies from the end user. SMS management system plays the role as SMS server to receive mobile originated SMS message, query database using SQL command are utilize to get the SMS request information. Two way SMS apply in purchase module such as stock info and bonus module for analysis. Two way SMS applied to improve interaction between distributor and SMS management system. All the interactions that have been described are called "two-way" interactions. They are two-way interactions because they involve the interaction of two variables [13]. SMS messaging technology can be used as the underlying communication medium between wireless devices and servers in a two-way interactive text messaging application [14]. system. SMS messaging application to enable distributor to query the direct sales company database while they are working outdoors. Figure 3 shows how the system works.

A distributor sends a SMS with command from his mobile phone to the SMS gateway, and from the SMS gateway the SMS will be forward to the SMS Management System, the SMS Management System will analyze the content and identify the command, once confirming the command the SMS Management System will search through the database for information following the command, the database will interact with the SMS Management System and upload the request information to the SMS Management System, follow by compiling the information to SMS format, SMS Management System will send the information to the

SMS gateway, and finally the SMS gateway will send the SMS to the distributor.

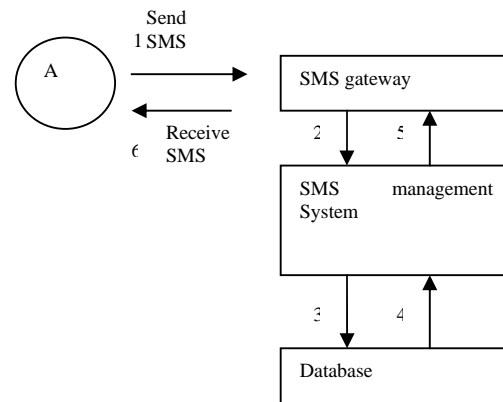


Figure 3. Two way SMS flow

### 4.2 SMS Looping

SMS Looping is a completed message loop between two entities [15]. It's a sequence of instructions that repeats either a specified number of times or until a particular condition is met [16]. Definition of SMS Looping in computer science says: "executing the same set of instructions in a given number of times or until a specified result is obtained; "the solution is obtained by iteration" [16]. SMS management system applies the message loop concept. SMS management system acts as inter medium between up line and down line distributor. It's for the purpose to improve interaction between distributors. SMS looping enables distributor to send SMS with registration command to SMS Management System, SMS Management System send verify request to up line distributor. The system will hold the request until the verify process complete. SMS Management System acts as SMS server to receive mobile originated SMS, query database using SQL command to get the SMS request information. SMS looping concept mostly apply in the mobile base registration module. Figure 4 shows a completed message loop between two entity and figure 5 shows how the system work in looping message.

Distributor A send a command SMS to request Distributor B register under his sponsor tree. This request SMS is send to SMS gateway, after that SMS gateway will forward the request SMS to SMS Management System, this SMS Management System will then identify the command, and updated the information in the database. Once the database receives the request, it will interact with SMS Management System. Then the SMS Management System will send a verifying SMS to Distributor B through SMS gateway. Distributor B will then reply a confirmation or cancellation command SMS to the SMS Management System. As the same procedure, the SMS Management will identify the answer and then update the database; meanwhile, SMS Management System will also send a status notifying SMS to Distributor A through SMS gateway.

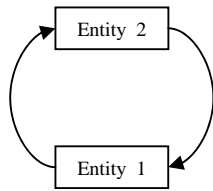


Figure 4. A completed message loop between two entities.[15]

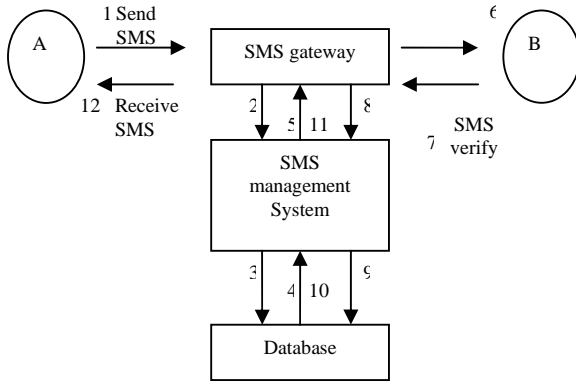


Figure 5. SMS looping

### 4.3 Hierarchy SMS

A hierarchy is a system of ranking and organizing things or people, where each element of the system (except for the top element) is subordinate to a single other element [5]. A hierarchy can link entities either directly or indirectly, and either vertically or horizontally [5]. Direct sales and network marketing use hierarchy concept in recruit members and distribute bonus. Hierarchy SMS enable distributor send group SMS to the whole distributor in hierarchy sponsor tree that under him. Hierarchy SMS apply in few areas, right here we have group SMS module, bonus distribute module, registration module, purchase module, down lines bonus analyzing module.

SMS Management System acts as SMS broadcast station to receive group SMS request, query database using SQL command to identify all the distributor in hierarchy sponsor tree and finally send bulk SMS to everyone under the sponsor tree. SMS management system also plays the responsibility as bonus calculation and distribution station, it is able to calculate and distribute different bonus amount for different level in this hierarchy. Figure 6 shows how the system work in hierarchy bulk SMS and figure 7 shows how the system work in hierarchy bonus distribution.

Distributor A send a purchase SMS to SMS Management System through SMS gateway, the SMS Management System will analyze and identify the command from the purchase SMS, it will then send the information to the database, the database will calculate the bonus or commission amount, after the calculation the database will send the information to the SMS

Management System, and the SMS Management System will compile the information into SMS and forward the SMS to Distributor A.

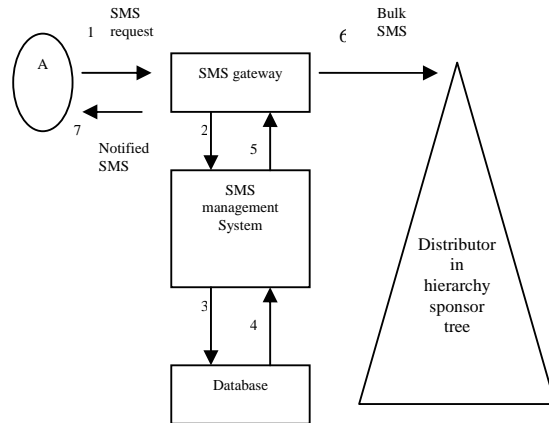


Figure 6. Hierarchy bulk SMS

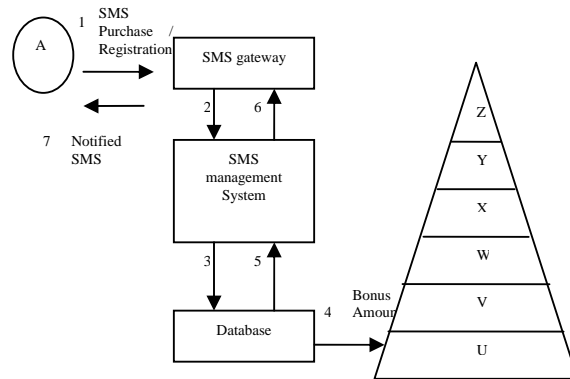


Figure 7. Hierarchy bonus distribution

## 5 Conclusion

In the time of highly developing in technology, we are facing a lot challenges. To get the information flow faster and correctly. SMS have been great advantages in this area. In business world, everything is about fast, effective and the most important cost saving. Introducing this SMS Management service to the direct selling industries will definitely bring the company performance to the next level.

With the SMS Management System, the direct selling company will be able to expand their business by introducing the SMS registration program. With this SMS registration, people can avoiding long queue in the office, agent on field can easily register a customer under his business line without going to office and without filling long and complicated form. A simple reply from the customer will confirm the registration.

And with a SMS management human interface for company management, it will help increase the effectiveness of communication with the company's distributors. Information on product knowledge, stocks

level, meetings, launching and finally, will be more effective to broadcast information to all the agents and distributors through SMS. Comparing using the SMS method with fax and traditional mailing method in information broadcasting, you will definitely find that SMS is far more effective in time saving.

To show more advantages of the SMS Management System, the function of SMS delivery report is playing a big role. Compare to traditional mailing method, you will never know whether the end users mailing is still valid. But with the SMS delivery report service available, you will be able to confirm the validity of the user's numbers.

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