PCF6 Call for papers: Abstract by L Goitsemang and J Bahuma ,
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Title of the paper:

The use of information technologies to expedite information flow between Open and Distance Learning (ODL) learners and their educational providers.

1.0 Abstract

This is a study in the use of information technology, specifically the use of BULK Text messaging (SMS) service as a way of improving and expanding service delivery to the Open and Distance learning (ODL) learner. The paper seeks to explore the degree to which communication with learners by SMS can expand and strengthen learner support services to ODL learners thus reducing isolation and at the same time keeping the learners informed. Expansion of Academic Programmes at Botswana College of Distance and Open Learning has posed various limitations on resources such as inadequacies of space for tutorials, unavailability of tutors at some learning centres, inadequacy of coordinators to run these programmes. This has in turn forced the college to retrospect on its communication methods and move more towards those methods that can reduce the symptoms of isolation from distance learners and one of the methods that the college has recently adopted with success in this area is the SMS. This paper therefore seeks to establish that indeed SMS is one mode of communication that ODL practitioners should consider for their learners as it is an effective way of communication.

2.0 The Rationale:

The traditional SMS mode of communication is from person to person. Bulk text messaging therefore is sending the same message to a group of learners at a go or receiving different messages from different learners through a server (software system), therefore ensuring access and reachability to or from many, within a short period of time. E-learning first emerged in the late 80s and by the 90s it had moved from heavy desktops to laptops. Since then we have seen the processing power of handheld devices grow exponentially while becoming more affordable and providing more and more complex communications services including date transfer capabilities. This has created the connected lifestyle of the wireless society among the youth of today. These devices have opened a new door to learning on the go which we now call M-Learning.

Mobile Learning refers to the use of handheld devices such as Personal Digital Assistants (PDAs), mobile phones, laptops and any other handheld information technology device that many be used in teaching and learning. However the most common of these devices is the cell phones. In Botswana a

very high percentage of our learners actually own one or two cell phones. This actually offers us an opportunity to take advantage of this instrument to facilitate learning. Amongst the groups that we have used the SMS service so far, 99.8% of the learners own a cellphone and within the 0.2% that do not have a cellphone, their next of kin, relative or guardian can be reached through a cellphone, thus making this device one of the most popular for our learners. At BOCODOL, different communication systems have been used to communicate with ODL learners including letter, phone, fax and others but SMS has proved to be more efficient as the learners can easily relate to the message they receive as the message is not only immediate but can be referred to immediately as well.

3.0 Purpose

The purpose of this study is to highlight the extent to which ODL providers can take advantage of the SMS service to increase contact between themselves and the learners. The study establishes the use and importance of SMS and therefore it's role is seen as reducing the isolation between the learner and the provider. This service has been evaluated by learners as being instant and most importantly, personal. This makes the learner immediately relate to the message sent, own it and even respond to it with the confidence that there is someone on the other side looking out for their study, thus enhancing learner support.

The paper looks at the following questions in establishing the use, importance and place played by using SMS as one way of improving service delivery to a distance learner:

1. What is SMS

2. Why SMS Service Provision In ODL?

3. Advantages of using SMS for the Learner

4. What is in it for the Learner?

5. What are the requirements for setting up the Service:

6. What is the role of the service provider?

7. What are the financial implications for such a service?

The study will conclude by looking at a typical Implementation and Monitoring Plan for such a service. This will be done by looking at projects that has been carried out in this area and analyzing the findings to inform service delivery in ODL. Findings from this study will direct other ODL service providers to informed and researched implementation strategies that will enhance service delivery.

4.0 Why SMS Service Provision

4.1   SMS provision in DE Institutions is one of the latest technology driven services which has been identified by ODL providers as having a potential for enhancing Learner support services. Some of the strategies for improving Learner performance have been identified by the Common Wealth of Learning (COL) October, 2008 as;

- increasing the amount of face-to-face teaching

- increasing the number of tutorial centres so that more learners who currently opt for the non-contact option can get to face-to-face sessions

- changing the nature of the teaching system by using more radio and introducing television programmes into the teaching system, and focusing on the quality of the lessons given, supporting learners through the mobile technology.

Communication to learners by SMS is intended to expand and strengthen learner support services to learners thus reducing isolation and at the same time keeping the learners informed.

5.0 Advantages of Using SMS in ODL

Mobile learning offers institutions a new kind of opportunity for reaching out to learners and has been identified as offering many advantages some of which are:

5.1 Convenience: accessible from anywhere (bus, class, lands, cattle post) through their cell phones.

5.2 Collaboration: best learning takes place when we share and get immediate tips and feedback, and a lot of collaboration between learners is possible through the use of cell phones.

5.3 Engaging/Fun: combine gaming and learning for a more entertaining and effective experience

5.4 Interaction: Student interaction with instructors and among each other.

5.5 Portability: PDAs are lighter than books and enable the student to take notes or input data directly into the device regardless of location either typed, handwritten or using voice.

5.6 Collaborative: Enables several students work together on assignments even while at distant locations.

5.7 Engaging learners: The new generation likes mobile devices such as PDAs, phones and games devices.

5.8 Increase motivation: Owner ship of the handheld devices seems to increase commitment to using and learning from it.

5.9 Bridging of the digital divide: Since handheld phones are more affordable than larger systems, they are accessible to a larger percentage of the population.

5.10 Just-in-time learning: Increases work/learning performance and relevance to the learner.

5.11 May assist learners with disabilities such as the hearing impaired in that they can physically see the message and respond to it by sending the messages back to the originator without the assistance of a third person.

5.12 From some of the strategies used in learning support, mobile technology has been singled out as being cheaper and more affordable for developing countries than the rest.

5.13 The high cost of face-to-face support means that contact sessions should be limited if costs are to be kept down. All too often, however, there is pressure to make open schools look like traditional schools.

5.14 There are new ways of providing limited interaction at a much lower cost than a fully individual system. Information and communication technologies in the form of SMS, have helped in this respect.

5.16 It is undoubtedly the case that in those countries where students have relatively easy access to ICTs, these have supported greater interactivity between students, their tutors and the institution.

In Heydenrich's (2004) view, the learning development process must be continuously innovative and inclusive of facilitation and support in order to encompass a holistic approach to the learning experience

6.0 Methodology

A proposal was developed by Learner Support Division at BOCODOL to run a pilot study of the SMS service as a way of improving and expanding service delivery to the learner. One programme was proposed for this pilot, the Small Scale Business Management Course (SSBM), which is a certificate course running for six months every year at the college. This is a course that enrols 200 learners or more every year. The 2009 SSBM learners were a fourth cohort to be enrolled by the College.

There were 247 learners enrolled in the programme and the pilot target start date was January 2009. The following is the profile of the learners in the pilot project that was conducted in 2009:

- Self Employed

- School equivalency leavers

- Not employed

- Fully employment

- Man/woman

- Youth and adults

7.0   Scope of the Project

The College undertook this project starting with the basic provision whose cost is affordable and is supported by an available budget for the current year. The College then planned to incrementally build towards a service that would offer much more through Remote bulk SMS (Lecturer -> Coretalk -> Students), Lecturer / Student SMS Chat Rooms, Personalised SMS of Exam Results and other value-added communication features such as SMS FAQ site and others using a phased in approach. Communication was centred around informing learners about their schedules, critical announcements in the delivery, changes that occur while on the programme, follow up on assignment submissions, examination reminders, workshop and meeting invitations or follow up and any other important information the College wanted to share with learners at any particular time. Each SMS can only take 160 characters at present.

8.0 Requirements for setting up the Service:

8.1   The clients (BOCODOL learners and tutors or suppliers) biography was compiled and presented in an excel file format to the service provider.

8.2   The group inter-relations are indicated below e.g.

- which group belongs to which region

- who is the tutor for which group

- how many different groups does a tutor take

- how many groups of programmes does a learner belong to

- which learners belong to a particular coordinator who will have been identified by each region.

8.3 All the relationships were identified; each coded accordingly to enable messages to go to the rightful groups from the right source.

8.4 A coordinator was identified at headquarters and one in each region for administrative and security purposes. Coordinators perform the following duties:

- They are persons through whom messages are sent by originators

- Communicate with the provider to ensure that responses have been received

- Check who is not getting their messages and why

- Update the provider with changes of contacts.

9.0 The Provider/Partner

The SMS service providing company is CORETALK COMMUNICATIONS. This is a Local/citizen owned company. The company enhances provision of SMS communications between individuals, companies and organizations with cell-phone providers.

This is the only available company currently running the Bulk SMS service for organisations. The company was recommended by MASCOM, a cell phone provider as their subsidiary in bulk SMS provision.

Botswana Telecommunications (BTC) and cell phone provider ORANGE were other providers that were consulted. BTC does not currently have a bulk SMS service while Orange suspended the service because it was not profitable.

10.0 Financial Requirements

To set up the system, the Company charges **P350.00** with a monthly rental of **P100.00**. Each SMS message costs **P0.20t** irrespective of whether connection is by MASCOM, ORANGE or BE MOBILE, the three cellphone providers in the country. This amount is payable at the end of each month depending on usage.

Registration of the select pilot group stood at 247 i.e. following close of enrolment (source: Academic Registry records BOCODOL). This means: one message per month would cost 247 x P0.20 = P49.50 while five messages in a month would cost 247 x P0.20 x 5=P 247.00. For pilot purposes, 3 ghost learners were added to quality assure the service. Thus the final figure and cost was estimated at 250 learners x P0.20 x 5 messages per month = P250.00

Total incurred cost therefore would be P 5600 -00 for the first month. Thereafter subtract P350.00 set up fee and P2800.00 cost for 7 cell phones. Thus on a monthly basis, cost incurred would be P2450 which was quite reasonable according to the budget.

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11.0 Implementation and Monitoring Plan

The start date was proposed to be January 2009 when all logistics would have been ironed out. Monitoring would be provided by Learner Support Department as the lead implementer and Department of Multi-Media and Production Services providing technical back up. The finish date was set for June 2009, when the learners would be exiting the programme.

- Seven Cell phones were purchased for the project (one per region and two for the coordinators at HQs).

- Two coordinators at HQs were identified; one from the Learner Support Department namely the Guidance & Counselling Coordinator and the other from the Department of Multi Media and Production (Programmes Division) namely, E-Learning Coordinator.

- Five Regional Coordinators, one in each Regional Centre were identified. To streamline workload in the Regions, it was recommended that the Course Coordinators be made project coordinators in this case.

- A project Advisory Committee was set up to monitor the pilot thereafter implementation during the roll out.

- The costs for the service were borne by the institution whereas the learner bears very minimal costs in responding to messages or originating messages to the institution.

- Learners cell phone numbers were compiled and the lists given to the provider

- The regions had were responsible for allocating tutors for each group

CHALLENGES

- Changing contact numbers, some learners change numbers due to loss of cell-phones and other personal reasons and therefore miss information where there is delay in submission of the changes

- Learners wish to communicate directly with their tutors but then this has cost implications as well as time constraints on the part of the tutor.

- Learners want to respond immediately to every message they receive by phoning the regional office or their tutor-costs implications for the learner as they cannot be subsidized as individuals

12.0 Assumptions

12.1 Learners should be able to send messages/queries to their coordinators and tutors. In turn, the recipients such as tutors will be able to respond promptly in the form of questions, answers, reminders, corrections etc.

12.2 Responses from the clients can come through to the originating cell phone or to the server and then be sent out the following day through email to the College or originator. **Appendix 4**

12.3 The learners will be sending questions to their tutors or the coordinator where the tutor is not available

12.4 Where questions have been sent to the coordinator, the coordinator will in turn pass them to the tutor either through email or hardcopy delivery

12.5 The tutor will prepare answers to the questions and send them to the coordinator for onward transmission through email to learners

12.6 Learners will be provided with their tutors as well as coordinators cell phone numbers

13.0 Findings

An evaluation tool was developed and distributed to the different regions to administer during the pilot and thereafter collected for analysis. The evaluation tool analysis rated satisfaction with the service from least satisfied to very satisfied. The following covers some of the feedback from the project evaluation

13.1 More than 97% of the learners indicated that they had accessed the service, those who did not have access, had not provided their cellphone numbers

13.2 All the learners who accessed the service found it very helpful and useful. Learners showed satisfaction by using expressions such as "It is good, excellent, very helpful, excellent tool for communication, it reminds us about important dates, it reminds us to prepare for the next tutorials, **Appendix 4**

13.3 Learners felt that the service could be extended to inform them about their examination and assignments results as well as other college activities and programmes.

13.4 They also felt that the service was interactive in that the questions they asked the college or tutors after any communication was responded to either through a tutorial letter, email or at the next tutorial session

13.5 There was 88% completion rate with this cohort whereas it had been at 75% for other cohorts. This could be attributed to some extent to the motivation the learners received from this service.

13.6 The pass rate for this cohort was high, 90%, this could possibly be attributed to the smooth information flow resulting from this service.

13.7 The learners actually used statements like, "the college is in touch with the learner", in their evaluation of the service, which indicates that a breakthrough in trying to reduce the isolation the distance learner experiences in their learning

14.0 Conclusion

The SMS service, from this study has justified the reasoning that it promotes communication between the learner and the institution thereby motivating them to go through the programme. It also tunes learners to the current wave of technology and gives them timeous reminders and immediacy of information shared. The fact that it cuts down the isolation and distance between the institution and the learner also promotes a sense of belonging and identity with the institution. The study has indeed indicated that using the SMS service with ODL learners expands and strengthens learner support services, thereby promoting learner centredness, which is one of the principles of Learner support. This is one service that has proved to be convenient to both the learner and the ODL provider as it accessible from anywhere (bus, class, lands, cattle post) through their cell phones.

Amongst this pilot group we had 5 learners who are hearing impaired. During tutorials and other face to face contact, the college was interacting with them through a sign interpreter but when it came to sharing of information through the SMS service, the college could directly interact with them in that they own cellphones and they also able to respond directly without the use of the interpreter. These learners were very happy with this service as they could ask their coordinators and tutors questions directly without having to wait for the interpreter to assist them.

The ODL learners in Botswana come from diverse geographical backgrounds; towns, villages, small settlements, farms, and the most marginalized remote areas but the SMS has been able to break this barrier in that connectivity is very high in the country. This is one tool that encourages the remote learner to study as they are in touch with the rest of the world out there. This service has improved collaboration not only between the learner and the institution, but amongst the learners themselves. Their evaluation of the study indicates that this service opened their eyes to collaborating amongst themselves by discussing through SMS and asking each other academic questions using this option rather than the telephone. This indicates not just collaboration but interactivity with other learners as well as the study materials.

The use of BULK SMS proved to be very helpful as the college managed to communicate with learners effectively. Dissemination of information to learners became very easy and effective, and as a result this in turn motivated learners to be in-touch with the college all the time, hence the service has now been rolled out to other programmes. It should be understood that this service is not going to cancel out other forms of communication or support that is currently in use such as tutorial letters, telephone usage, radio announcements, briefings just to name but a few, but it is intended to augment them.

Appendix 1: **CORETALK SMS FEATURES**

- **Record** of all SMS messages in- & out-going (with date/time stamp).
- **Improved Service Levels** as SMS communication is constant and clear.
- **Automated Query Response** to answer frequently asked questions (FAQ)

- **Service Level Measuring** of first call query resolution and outstanding items.

- **Lower Cost** of communication when migrating communications from Voice to SMS.
- **Immediate Communications** as SMS are sent and received through the mobile network directly to the destination cellphone within seconds – even out of the office.
- **Easy-to-Use Menu** using icons for each function and step-by-step wizard assistance.
- **Networkable** on your LAN, multiple users can share the same modem and database.
- **Mass and Group Communications** for sending bulk SMS to groups (+-400 SMS/hour).
- **SMS and Email Forwarding** of incoming communications to your mobile phone based on filtering by Contact Name / Keyword, and ability to reply to e-mail or SMS from your mobile phone.
- **Helpdesk** records all incoming SMS messages and matches them to the contact database and records the history of communications with that contact.
- **Contact Management** allows for all existing contacts to be imported into the system, so that when a person contacts your company you will automatically know who they are and you will have the ability to see the history of communication that you have had with them.
- **Scheduler Messages** Provides the ability to send reminders based on tasks and appointments.
- **Message Templates** creates SMS, where the message is tailored to include personalised data such as Name, Client No. and Financial Info.

Appendix 2: Financial Costs

Requirements	Cost Per SMS/Item	Number Of Times Messages Sent	Monthly Rental	Total Payable In One Month
Setup Fee				P 350 - 00
250 learners	P 0.20	5 x 6 months	P 100 x 6	P 2100-00
7 cell phones(5 regions + 2 HQ)	P400	-	-	P 2800-00
Airtime For Coordinators	P 0.20 x 250 learners x5	5 per month	-	P 350 - 00
Monthly costs less setup and cellphone purchase	5600-00 – 2800+350	-	-	2450-00
GRAND TOTAL				P 5600 -00

Appendix 3: Deciding Which Media to Use

- Do any of the learning outcomes dictate certain media?

- Which media are physically available to the learners and convenient for them to use?

- Are any media likely to help motivate learners?

- Is the Institution or sponsor pressing for certain media to be used?

- Do learners have the necessary skills to use the media?

- What are the costs to the Institution of different media?

- What are the costs to the learner?

Appendix 4: Implementation Plan

	Action	Details	By when	Officer

Item				Responsible
Audit of Learners with cellphones	Compile lists of SSBM learners with cellphones	Lists from each region compiled and cellphone numbers included	August 2008	G&CC
Draft Proposal	Drafting initial proposal	Proposal drafted and shared with management at Divisional meeting	September 2008	MLS
Share Draft Proposal with Multimedia	Sharing and Discussion of draft Proposal	Draft shared with Multimedia Manager and parameters of implementation agreed upon	October	MLS
Draft Proposal on the technical assistance on implementation	Multimedia's part of the Proposal drafted	Details of stakeholders involved, funding and the technical assistance needed	November	MMP manager
Proposals from Multimedia and Learner support shared with LS and Programmes Directors	Proposal sharing	Comments and feedback from Directors on the proposals	November	DLS & DPMM
Final proposal submission to executive management	Proposal sharing	Update to executive on proposal	November	Academic services
Proposal Approval	Executive management approves proposal	Approval	November	Executive
Quotations and setting up/purchases	Quotations on setting up sourced from	Cellphones chosen and purchased-	December 2008	MMP manager

	Provider(CORETALK and CELLPHONE SHOPS)	server by provide set up. Units for each phone bought and these officially distributed to coordinators		
Demonstration/Presentation	Partner presents the operations and hands over to BOCODOL	Technical staff and coordinators taken through the operations before the start date	January 2009	MMP manager
Commencement of the project	Learners in the pilot informed and briefed about the project	Briefing during Tutorial 5 in January about the project	January 10, 2009	Regional course coordinators, LSD staff and MMP staff
Pilot	Pilot	Pilot	Jan- May 2009	As above

G&CC- Guidance and Counselling Coordinator

MLS- Manager Learner Support

MMP- Multi- Media Services

LSD- Learner Support Department

References:

1.Info@coretalk.co.bw

2.www@bocodol.ac.bw

3.Sushmita Mitra: Manual for Tutors of Learning Centres in open Schools