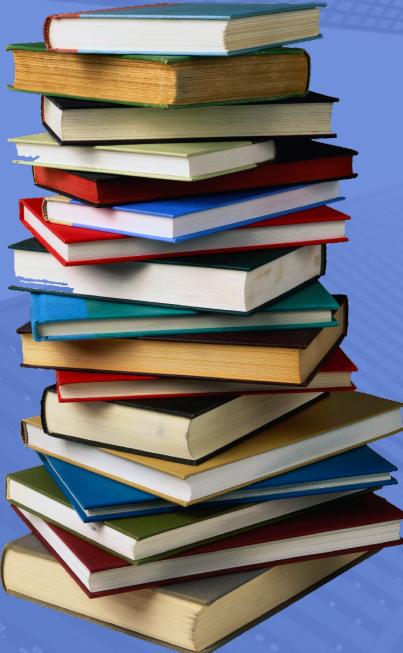


LIBRARY OVERDUE BOOKS PROBLEM

GLENDON | JUSTUS | MAYVENE | NICHOLAS | WEI YANG



AGENDA



01

INTRODUCTION OF PROBLEM

02

PROBLEM ANALYSIS

Root Cause | Current Implementations

03

SOLUTIONS

SMS System | Demerit System | Merit System | Social Campaign

04

LIMITATIONS OF SOLUTIONS

05

CONCLUSION

Problem

Root Cause

Current
Measures

SMS

Demerit

Merit

Social
Campaign

Limitations

Conclusion

PROBLEM

LEE KONG CHIAN
SCHOOL OF BUSINESS

SCHOOL OF LAW

SCHOOL OF
INFORMATION SYSTEM

SCHOOL OF ECONOMICS/
SCHOOL OF SOCIAL SCIENCE

SCHOOL OF ACCOUNTANCY



LI KA SHING
LIBRARY



KWA GEOK CHOO
LAW LIBRARY

Problem

Root Cause

Current
Measures

SMS

Demerit

Merit

Social
Campaign

Limitations

Conclusion

DATA COLLECTION SOURCES

SMU LIBRARY

SURVEY

MNR#	Title	Loan Date	Due Date	User Group	Statistical Category
1	9.951+1 The arms of the United States	29/7/16	3/1/17	FACTORY	School of Social Sciences
2	9.951+12 Ethics and the law	29/7/16	3/1/17	FACTORY	School of Social Sciences
3	9.951+12 Ethics and the law	29/7/16	3/1/17	FACTORY	School of Social Sciences
4	9.951+12 Ethics and the law	29/7/16	3/1/17	FACTORY	School of Social Sciences
5	1.001+12 Ethics and the law	29/7/16	3/1/17	UNIVERSITY	School of Social Sciences
6	1.001+12 Ethics and the law	29/7/16	3/1/17	UNIVERSITY	School of Social Sciences
7	1.001+12 Ethics and the law	29/7/16	3/1/17	UNIVERSITY	School of Social Sciences
8	1.001+12 Property law	29/7/16	8/3/16	CORPORATE	School of Social Sciences
9	1.001+12 Property law	29/7/16	8/3/16	CORPORATE	School of Social Sciences
10	1.001+12 The winner's curse	29/7/16	11/7/16	UNIVERSITY	School of Social Sciences
11	1.001+12 The winner's curse	29/7/16	11/7/16	UNIVERSITY	School of Social Sciences
12	9.951+12 The legal system	29/7/16	22/7/16	MASTER	School of Law
13	9.951+12 lecture on 1.001+12	29/7/16	22/7/16	UNIVERSITY	School of Social Sciences
14	9.951+12 lecture on 1.001+12	29/7/16	22/7/16	UNIVERSITY	School of Social Sciences
15	9.951+13 library request	29/7/16	23/7/16	UNIVERSITY	School of Information Systems
16	9.951+13 library request	29/7/16	23/7/16	UNIVERSITY	School of Information Systems
17	9.951+13 library request	29/7/16	23/7/16	UNIVERSITY	School of Information Systems
18	9.951+13 The French revolution	29/7/16	20/7/16	UNIVERSITY	McCombs School of Business
19	9.951+13 The French revolution	29/7/16	20/7/16	UNIVERSITY	McCombs School of Business
20	9.951+13 International business	29/7/16	4/8/16	20/2/16	Others
21	9.951+13 International business	29/7/16	4/8/16	20/2/16	Others
22	9.951+13 U.S. animal	29/7/16	22/7/16	22/7/16	UNIVERSITY
23	9.951+13 An introduction to the law of torts	29/7/16	22/7/16	22/7/16	UNIVERSITY
24	9.951+13 An introduction to the law of torts	29/7/16	22/7/16	22/7/16	UNIVERSITY
25	9.951+13 An introduction to the law of torts	29/7/16	22/7/16	22/7/16	UNIVERSITY
26	9.951+13 An introduction to the law of torts	29/7/16	22/7/16	22/7/16	UNIVERSITY
27	9.951+12 Ethics and the law	29/7/16	24/7/16	24/7/16	Kellogg School of Management
28	9.951+12 Ethics and the law	29/7/16	20/7/16	22/7/16	UNIVERSITY
29	9.951+12 Ethics and the law	29/7/16	20/7/16	22/7/16	UNIVERSITY
30	9.951+13 Hayton and F	29/7/16	22/7/16	22/7/16	School of Information Systems
31	9.951+13 Hayton and F	29/7/16	22/7/16	22/7/16	School of Information Systems
32	9.951+12 The New York	29/7/16	29/7/16	24/7/16	MASTER
					UNIVERSITY



Problem

Root Cause

Current Measures

SMS

Demerit

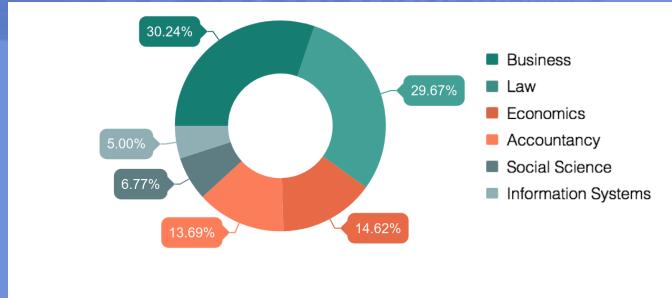
Merit

Social Campaign

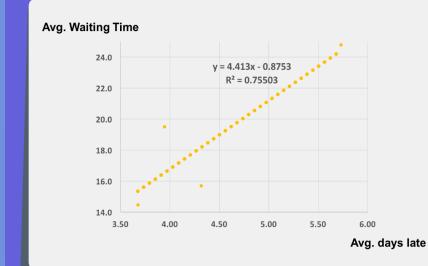
Limitations

Conclusion

Who borrow book from SMU Library?



How does it affect other users?



Chronic issue for overdue books will affect the welfare of others who are waiting to loan the book

Key Statistics



About 1 in 10 borrowers do not return books on time

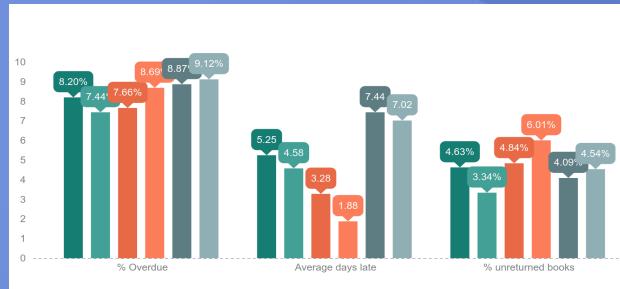


People with overdue books return on average 4.55 days late



About 1 in 20 borrowers do not return books at all

Prevalent Across Schools



Problem

Root Cause

Current Measures

SMS

Demerit

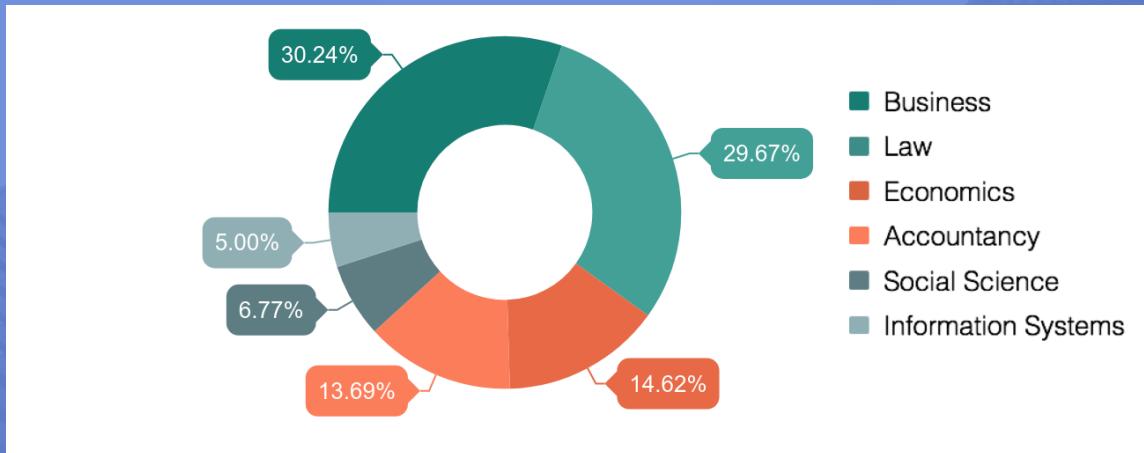
Merit

Social Campaign

Limitations

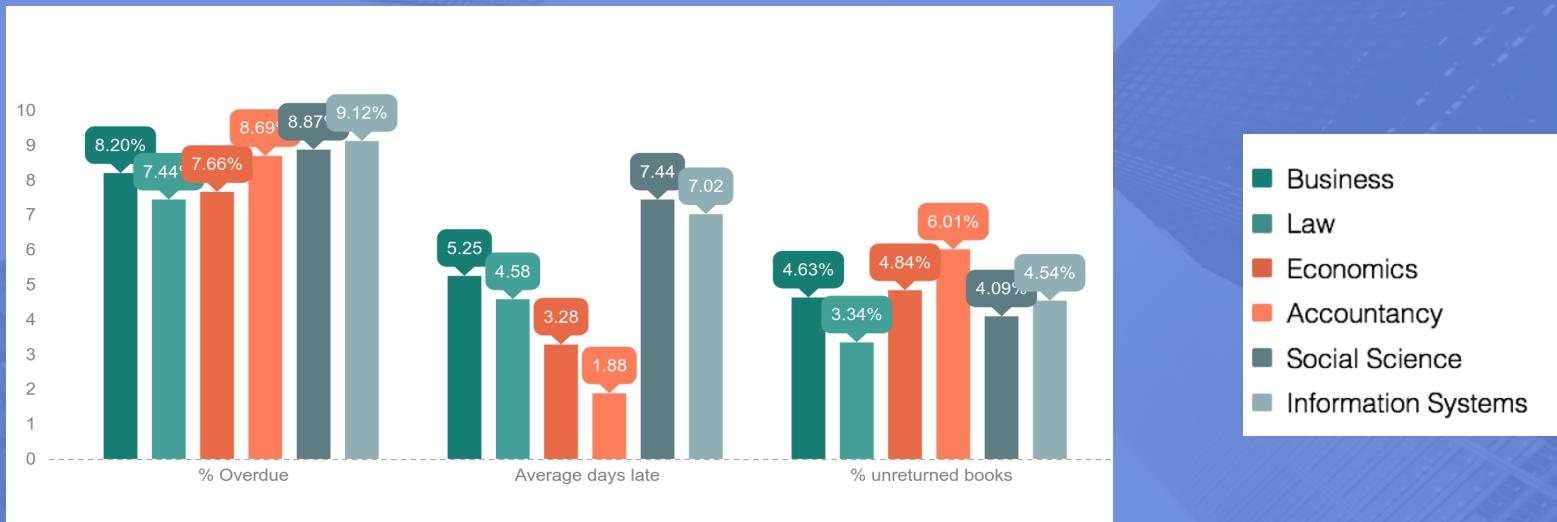
Conclusion

Who borrow book from SMU Library?



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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Prevalent Across Schools



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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Key Statistics



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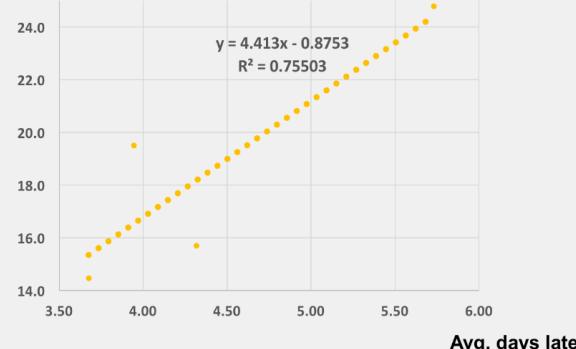


About 1 in 20 borrowers do not return books at all

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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How does it affect other users?

Avg. Waiting Time



Chronic issue for overdue books will affect the welfare of others who are waiting to loan the book

Problem

Root Cause

Current Measures

SMS

Demerit

Merit

Social Campaign

Limitations

Conclusion

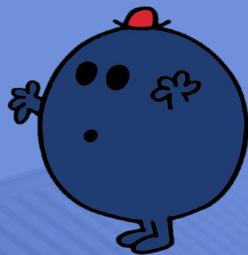
DISCUSSION QUESTION

WHAT ARE SOME REASONS WHY USERS RETURN THEIR BOOKS LATE?

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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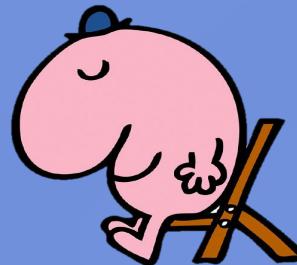
ROOT CAUSES

POOR USER BEHAVIOUR



FORGETFUL
63%

UNINTENTIONAL



LAZY
25%



SELFISH
12%

INTENTIONAL

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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CURRENT MEASURES

HOW TO SOLVE THE PROBLEM?



EMAIL REMINDER SYSTEM

FINE SYSTEM

RENEWAL POLICY

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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EMAIL REMINDER SYSTEM

Currently:

- Reminder email will be sent 2 days in advance of the due date

Limitation:

- Email is directed to the borrower's spam folder
- Overflowing of inbox with emails from different entities of the school
- Easy for borrowers to overlook the email

How can the reminder system be improved?

- Targeting a channel of notification which is closer to people's daily life



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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FINE SYSTEM

Overdue Fines

Books	S\$1.00 per day after the due date
	S\$5.00 per day after the due date (3 day loan)
Items in reserves	S\$1.00 per hour after the time due (3 hour loan)
AV items	S\$1.00 per day after the due date

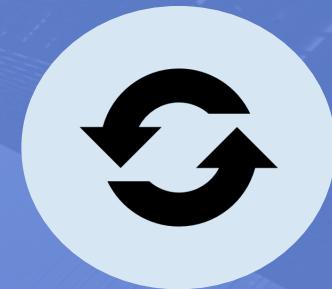
- Charged \$1/day after the overdue date
 - Upon accumulating \$6 per book, user's account will be blocked and prohibited from borrowing
 - **Maximum fine/book:** \$25
 - **Limitation:** Fines may not be strong enough to deter borrowers from late returns
 - **How to improve?**
 - Implementing penalties that will make borrowers feel the pinch



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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RENEWAL POLICY

- To facilitate efficient circulation of library materials
- Borrowers can place a request on books that are already on a loan
- The request would reset the borrowing date of a book that is currently on loan to 14 days from the date of request



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTIONS

01

SMS REMINDER SYSTEM

02

DEMERIT SYSTEM

03

MERIT SYSTEM

04

SOCIAL CAMPAIGN

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 1 : SMS REMINDER SYSTEM

KEY ISSUES ADDRESSED

To prevent forgetful (unintentional) users from forgetting to return books

RATIONALE

- Phones are closer to people's daily lives which increases the chances for borrowers to read the reminder emails
- **Evidence:** Research has shown that there is 3 times the number of people who are reading your messages than opening mails you send them
- Students will provide contact number when they borrow a book and select how many days in advance of the due date an SMS reminder is to be sent to them

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 2 : DEMERIT SYSTEM

KEY ISSUES ADDRESSED

To deter users who intentionally do not return books on time from doing so.

DESCRIPTION

KEY FEATURE

Library Credit System

To track the performance of user

PUNISHMENT

BOSS e-credit Deduction System

Punishment for late return of books

CSP Hours System

To tackle serial offenders

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 2 : DEMERIT SYSTEM

- 1 library credit = 4 BOSS e-credit

Rationale:

- **Grace Period:** To account for weekend
 - Current average overdue days = 5 days
 - Cap of -20 BOSS e-credit to prevent the student from being unable to bid
 - CSP involves helping the library maintain overdue system
 - Forces serial offenders to understand consequences of their actions

Lib Credit	Punishment
3	Grace Period
2	
1	
0	
-1	-4 BOSS e-credit
-2	-8 BOSS e-credit
-3	-12 BOSS e-credit
-4	-16 BOSS e-credit
-5	-20 BOSS e-credit
-6	-20 BOSS e-credit + 1 CSP hour
-7	-20 BOSS e-credit + 2 CSP hours
-8	-20 BOSS e-credit + 3 CSP hours

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 2 : DEMERIT SYSTEM

	SEMESTER 1			WINTER	SEMESTER 2			SUMMER			SEMESTER 1			
	Start of AY Sem 1		End of AY Sem 1	Winter	Start of AY Sem 2		End of AY Sem 2	Summer		Start of AY Sem 1				
		Bidding							Bidding					
BOSS	BOSS e-Credit System Continues	Deduction Reset & Restart	BOSS e-Credit System Continues	Amnesty Period	BOSS e-Credit System Continues			Amnesty Period	Deduction Reset & Restart	Amnesty Period	BOSS e-Credit System Continues			
Lib Credit	<ul style="list-style-type: none"> Deduction of Library credits will continue throughout year. Library credits will reset at 0 when user returns book. 													
CSP Hours	<ul style="list-style-type: none"> CSP hours will start to accumulate when the user after exceeds -5 Lib Credit (-20 BOSS e-credits). CSP hours will stop accumulating when user returns book. CSP will be cleared when user finishes serving their hours with library accordingly. 													

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 3 : MERIT SYSTEM

RATIONALE

To acknowledge the responsible users who return their books on time

REWARD

- Reward = \$15 worth of free printing sponsored by library per semester
- Amount is a weighted average from survey
- Users who return books on time at least once in the semester qualifies for reward



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 3 : MERIT SYSTEM

MORAL HAZARD

- Undeserving users may intentionally borrow and return book to qualify for reward



LOTTERY FEATURE

- Only 10 users will be selected for the reward
- Deters undeserving users as extra hassle – low probability of gaining the reward
- Survey: 68% of respondents WILL NOT go through hassle to gain reward

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 4 : SOCIAL CAMPAIGN

KEY ISSUES ADDRESSED



AWARENESS

- Lack of awareness on library campaigns
- Render ineffectiveness to implementations



PRIVACY

- Personal Data Protection Act
- Unable to disclose individuals

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 4 : SOCIAL CAMPAIGN

01

GOAL

Library set a target deadline for books to be returned

02

ACTION

Spread awareness via 'word of mouth'

03

REWARD

Library hours are extended on weekend for a month if the target is met

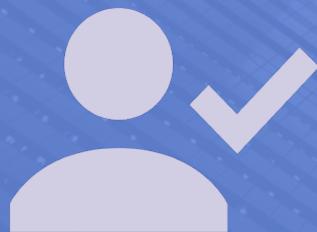
Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 4 : SOCIAL CAMPAIGN

OBJECTIVES

Kick Start Initiatives | Increase Awareness | Reduce Current Overdue

TARGET AUDIENCE



Who would be excluded?

SMU students on Exchange or LOA

Why would they participate?

Reward that provides positive externality

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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SOLUTION 4 : SOCIAL CAMPAIGN

INSTRUMENTAL & NORMATIVE CONTROL

- **Instrumental:** Reward
- **Normative:** Peer pressure
- Positive externality created by the reward
- Students to provide the positive and negative reinforcements
- Overcome the personal data protection issue



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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LIMITATIONS

1 Decrease in borrowing of books (Underutilization of library)

2 Students that are insensitive to reduction in BOSS credits

3 Library credits giving students extra days to cheat during grace period

4 Students going on exchange are affected

5 Additional pilot tests required

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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LIMITATIONS

Underutilization of Library

- Student get punished via BOSS credit deduction
- Disincentives certain groups of students to borrow as BOSS e-credits are precious to SMU students
- Lead to decrease in books borrowed
- Defeats main purpose of a library → Merit System

Insensitivity to punishment

- Certain groups of students are not particular over BOSS Credits
- E.g. Graduating students, student with too many Credits
- Punishment via deduction of BOSS Credits is not effective
- No significant effect on these groups of students

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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LIMITATIONS

Grace Period

- Users start off with 3 points at the beginning to account for forgetfulness / inability to return book during weekend
- Grace Period= second chance
- 3 points = 3 additional days overdue without punishment

Students on exchange unaffected

- Students on exchange/ LOA unaffected by new system
- Primary problem of getting overdue books still exists

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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LIMITATIONS

Additional Pilot Tests required

- Concept of an incentive system is new to SMU Libraries
- Libraries have never held a large scale campaign
- Test runs are needed to determine effects of these new ideas
- Time and additional resources are needed as well

Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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CONCLUSION



Problem	Root Cause	Current Measures	SMS	Demerit	Merit	Social Campaign	Limitations	Conclusion
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