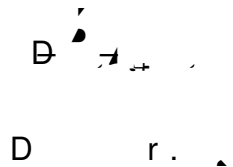


o
U_r or
w Z_r ron
Z_r o
E Z_r Z_r r Z_r o r
Z_r Z_r o Z_r U r Z_r

Practices of Collaboration in Writing and Their Support

Eevi Elisabeth Beck

University of Sussex



ACKNOWLEDGMENTS

Fr. Z. or o. Z. x r. r. Z. U. or. Z. or o. p. Z. p. Z. n. Z.
U. Z. U. Z. ow. p. Z. p. Z. n. Z. U. r. Z. Z. o.
D. p. or. w. r. n. Z. n. on. n. n. n. U. on. n. p. r. wor. U.
on. n. U. o. on. r. U. n. Z. Z. o. U. n. o. -

r. Z. p. op. w. o. ro. U. x. Z. p. o. r. own. wor. Z. U. n. xp. n. r. n. n.
pro. Z. Z. r. Z. on. Z. r. U. Z. pon. Z. w. Z. w. Z. r. n. w. Z. wor. n. n. U.
A. U. B. Z. ow. B. Z. n. Z. Z. Y. onn. o. r. Z. Z. An.

Zn Zn on o^u r w r C Zn oo Zn o C Zn pon Zn or Zn Zn Zn Zn Zn
Zn^u Zn or or or n ew w o Zn Zn Broo o p n Zn x n Zn o r p
n Ur Ur n Zn r 7 o^u pr n Ar Zn Zn Ey rr Zn r r n or
Zn Zn o D Zn Zn Co Zn p o m Zn Zn p n -

Zn Zn wo Up r or n r Zn Zn n r o r p o o D p Zn n o
Co p^u r n o Zn Zn Zn n n Zn oo o Co n Zn Co p^u n
n Zn n r o^u x Zn p - Zn r Zn U p o or n o^u Zn n
o w^u n Zn oo Zn op w Zn r Zn n r n Zn o or
n r o^u n or Zn Zn r Zn r on Co p^u r Zn r n or p n pr p Zn
Ur Zn Zn y or p^u Zn on pr n Zn on Zn no Zn or n
p Zn Zn p Zn n w n p r on Zn U Zn o r w n

F n Zn Zn wor w Zn Up por Zn e or Zn r Zn ro n or w Zn
Zn Co^u n or n Zn n^u r Zn Zn Zn o Zn ro or w Zn Zn
E^u Zn on Zn o Zn F^u Zn r Zn Zn y n Aw Zn or p Zn Zn Zn
X roy C Zn r E^u ro A C y n n m p pro r Zn

F n Zn n ow Zn r o Zn n w o n^u n on wor ow r
nn^u r Zn^u on Zn n Zn Zn Zn p Zn r r Zn w Zn no
n on Zn no r Zn Zn on Zn o^u o n^u n Zn n pr Zn on o
o^u Zn o^u

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-- U r p o o	
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--- wr, n	
-- u a o o n r u o n a	
--- o o o a o n r u o n	
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--- n r o - u o n	
--- Con r n o , r o n r u n o C C	
--- r n o o n	
--- r w o a r	
--- C C + a o p n + o o o	
--- a o n a o n n C C	
--- p r o r o r u r n n n r n o r C C	
--- n r a u o w a w U p p o r b r a o r r u	
o m a o r a wr, n	
--- n w a n a n o o p r o U p p o r	
--- a p p r a	
--- a o n p o o m a o r a o n a u o r n a n a a n	
--- a o m a o r a o n	
--- a a o r n	
--- a a a n	
--- a o n o m a o r a wr, n	
--- p r o r a o n o a u o r a p a r	
--- a r r a o p o n a n	7
--- o o o o wr, n	
--- Coma or a wr, n u n o a p o o	
--- Co n a o n a p p r a	
--- Exp r n o wr, n o r	
--- Co p u r o U p p o r o m a o r a wr, n	

-- nro u on	7
-- oo n z w o pro	
-- ow z n r u ou z or z on n wr n roUp	
-- u z z z xp r n z o	
-- u z z z no r z o	
-- E no o o o	
-- roUp or	
-- z on o no o o z roUp or or	
-- purpo	7
-- roUp o o z z n o u n r u o z or n	
-- o n z on n	
-- o z or o u	
-- r wo n z on	
-- u z o z r	

Chapter 3. Method..... 50

-- nro u on	
-- oo n z w o pro	
-- ow z n r u ou z or z on n wr n roUp	
-- u z z z xp r n z o	
-- u z z z no r z o	
-- E no o o o	
-- roUp or	
-- z on o no o o z roUp or or	
-- purpo	7
-- roUp o o z z n o u n r u o z or n	
-- o n z on n	
-- o z or o u	
-- r wo n z on	
-- u z o z r	

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-- nro u on	7
-- on z no z on o z oo	
-- D n z p z p z	
-- roUp wor	7
-- An z z n n	7
-- D u on	7
-- or o wr n n ou z or z on u ur n r w	7
-- D n z p z p z	7
-- D z a ou on z z z	7
-- F n n z u on	7
-- D u on	77
-- oo n or u ur n non z o u z p o ou z or z	
-- wr n z n z r z wor	77
-- u z o z r	

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-- nro u on	
-- o z ur n	
-- F n n	
-- Do u n	
-- r z z on o wor	7
-- p no non o roUp	
-- r n z on	
-- D u on o r u	
-- roUp u on	
-- r z z on o wor	
-- n r z z z on	
-- z u	
-- z on o r u	
-- p z on	
-- p z on or n	
-- urn n qu on roUp p z on or propo	
-- r z wor	
-- u z o z r	

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. . . u z o . . .	
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. . . FU r wor	
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CHAPTER 1. INTRODUCTION TO THESIS

1.1. Collaborative writing in academia and its computer support

... r... op n... o o Un... on... noo... Zn... r... Zn... r... or... or
Zn... p... op... o o Un... Zn... ro... Zn... - n... Zn... Zn... o... n... n... Zn... or
n... Zn... p... wor... w... ou... Zn... U... w... o... Zn... w... r... Zn... p... ou... Zn... or... Zn... on... e... U... n... w...
-... U... n... r... Zn... n... Zn... o... Zn... or... o... Zn... e... U... n... Zn... r... U... o... r... Zn... w...
Zn... Zn... U... o... Un... Zn... on... noo... n... r... o... Un... Zn... on... Zn... Zn... n... o...
wr... n... Zn... - Co... p... U... r... on... n... e... r... n... Zn... on... Zn... n... rn... Zn... on... Zn... n... wor... o... U... p... o... n... Zn...
p... U... wor... n... Zn... n... n... U... U... p... U... n... r... Zn... w... Zn... n... o... o... p... U... r... Zn...
o... w... Zn... oo... p... U... p... ou... Zn... or... Zn... wr... n...

o... U... oo... Zn... n... U... ow... r... Un... Zn... U... ow... w... Zn... o... U... p... por...
wor... Zn... ou... Zn... or... Zn... U... Zn... e... Zn... pro... pr... n... n...
U... o... ou... Zn... or... Zn... wr... n... Zn... on... Zn... w... o... U... on... pro... o... wr... n... o... r...
o... r... Zn... - Zn... U... o... ou... Zn... or... Zn... on... Zn... or... Zn... p... Zn... o... r... or... n... Zn... wor...
Zn... n... pon... or... n... q... U... r... ow... pro... xp... r... n... o... Zn... or...
r... ro... Zn... n... o... U... o... wor... p... r... or... n... or... Zn... n... Zn... oo... n... Zn... n... r... wr... n...
w... n... Zn... n... p... Zn... p... Zn... -

n... r... n... Un... r... Zn... n... ou... Zn... or... Zn... wr... n... o... ro... Zn... p... r... p... - A... on... yr...
wr... r... Br... U... Zn... U... Zn... wr... n... Zn... r... Zn... n... Zn... n... r... n... ou... Zn... or... Zn... n...
w... n... p... r... or... Zn... n... Zn... on... r... ow... n... Ano... r... yr... n... on... n... o... Zn...
on... Zn... n... w... p... op... o... r... Zn... Zn... U... Zn... o... U... Zn... n... Zn... p... o... Zn...
e... U... n... n... yr... p... r... r... U... n... Zn... on... Zn... p... ro... o... p...

u pr n o z r z on o z or z wr n z z n n
o o w z ow z n r o n z on-

n r o z r z pr n y on w z o z or z wr n

n / p q z z pr z u z ro u on r z n z n ro u
u z on r u o

An z o u o ow z n r z n o r z wor z
u z n z o u n on u u z z z u z z on r u on o
r z

1.2.1. Approach

po n Z z Z n U , ro Z n n n n prz on r o ow Z or Z wr n
Z o o o o n - r Z ow r Z z p o r Z o
Up r Z n w Z u

on \mathbb{Z} , w , n or \mathbb{Z} on w , \mathbb{Z} o \mathbb{Z} or or \mathbb{Z} \mathbb{Z} n , or \mathbb{Z} \mathbb{Z} on w r

o o o z on r u on u z n op n p n q u r n o wor o wr n
o r o n z p o r u o z or z wr n z n r n z an o
C C u n on o z o n z on o z pro z r z u z o n n on
z p n z r z r n r n or u r z n o z or z wr n z r
u r z n z ow z r z z n o z n on z u p on u r n u y n
u n n o z n

An z on r u on ro u u r z n p on r z n pro o p w z o
or z n z on p u z n p r n x p r n n wor o o z or z wr n
w z p z on or ow n r o C C z pro z r z n p z u z
z o z p on r o p z z r z o n z u z n o z o
p z p z n u or y z p wr n z n u on o r z on on
z or o n z o r on u wor n z ow u r z n z
z on u on o wr n z -

n x wo on pr n on r u on o u n z o n or z

1.3.1. Methodological contribution

Co z or z wr n z o p x p no no n A w u ow r z n z

z p z on u z on r u on o op n o o n z z
z p or y z p o pr n z on o z r z ro u n z p r z
Fu r or ro u z p z z r n pr z o o z or z on n wr n
pro y z p o w z n o z z z z r ro u r n o
r o r n u r z n ro o z n n z on n o o p u r
n no r u z p u u wor n n z z z
n r n z por z o r z z z z q u on on n u o z r
u z p o z u r o o p r p o o z u or
r z no ow r ro u n z p r n p o n o p op own xp r n
z z u no or y z p p no no z p on n z
o z on or p z n z n on o wr r xp r n o pro z
r z o ow p op o o u o p u r n r z n w z z n o
r z op n o z o z n q u on ro u z r o
u z z on

n-o u z pro p u r o r - u n r w z
ur pro z n u r o p n r o p r z o z u or n z n n z o o
u p n u z z o r pro y z p o n p z on w z n r z w n
ro u u z -

o r z q u on z propo r o u o u w r z u n
r o z o z on r o p u ow r or
r n u o r z n n o or n z q u on u u n p o n n o
p o n z z z or r z o o u on F u r o r z z z o w o r z on p
z on n n z propo B n z r z on r o z n o u z z
n n n o on o p p u o r

z u z nro u z pon r z wor ro z r z p o
z u n z n z z o z r z z r z wor ow r pro
n z q u z n r o p n o u r z w z wor o z or e n z z n r
z z o o r n z n r wor r u z q u on

CHAPTER 2. BACKGROUND

2.1. Introduction

work in the area of... on... Co p u r...
Co p u r U p p o r or Coop r... or Co p u r U p p o r or
Co m m o n o r C C... p r o... o... r o u p... w o r k...
n u q u n... r-

C C... n r... o p o p u r... w... p r o... U p p o r or w o r
k... r... o p... F r o... o p u r... n... o... w... u... p r o
... C C... o p u r... o p... n... o w... r... n... r o... n... p...
... u... o n C C... w r...

... n... w... o... r p o p... o n... u... u... w... o... u... o r
Y... p r o... o p u r U p p o r or o m... o r... o n... u... u... q u r...
... r... u... r... o... w... r o u p... o r... o n... u... o n...
... u r

... o
... o p u r... o... o o... , ...

... o... p... , ... or... 7

... n... u... on p... or ... n... on o ... n... r
a ... a ... or a ... on p... n... o ... u...
... n... on... op... n... on... w o ... or... ro... or o...
... o wor ... w... ... or... An ... or ... n
... or or pro... on... o ... o ... o ... q... n...
... u... n... o... or... or pro... ... n... r o
... or w o ... r o... or... or... or... or w o
wr... e... n... o... r ... n... or... wr... n... E... pro... o wr... n... o... r
... own a ... w... w... n... a ... or... pro...
... n... on... p... u... u... or... r... u... on... n... u... on ... no...
on... o ... or... r ... non o... w... p... r on w o n ... n o ... o
... n... r ...

Com... or... n... wr... r... or o... or... n... or... or... n... n... pro... o wr... n...
... e... u... n... o... r w... z... on o... r p... r o... u... z... n... ro... n... n... wr... n... z...
o... or... z... u... r... u... n... on...

... r ... wr... n... or... n... z... no... r... p... z... n... non o...

2.1.3. Overview of chapter

The chapter is divided into two main parts. The first part, covering pages 1-10, discusses the theoretical aspects of the problem, including the definition of the problem and the derivation of the governing equations. The second part, covering pages 11-20, presents the numerical solution of the problem, including the discretization of the domain and the implementation of the numerical scheme. The chapter concludes with a summary of the results and a discussion of the implications of the findings.

z qur n n n rn orr qur n z on nw r qur n or
z z or n z op n Fro z o pu r
op n pon o w r qur n n n rn o w z
u ur o w z un on z o pro o u r- Con pu z
nor z on on z n w z nown z qur n p z on por z
o o z on r u on o ro no o o q u z z o o o
o z p o o z u z z z z z z ur z
o n xpr n z o z o pro z z un r z n o o
z p o ow p op wor z er ow z o pu r p u

n z op n A pon z u z o pu r
p z n z p n on pu z qur n p z on urn n o
z n z n n o z n p n z on p z p z z pro z z o
n o r pr n z o u ur u r n n o z z
p z -

n- A r z z n u z z n o u z w
z propr z u r ro up z no r z z n w u o p op z p z - n
C C z n u no o u o w r p n
n z e w z w z n n o z o pu r n n u r z r
z z o r z on ow p op u u no -

Con pu z z on o pro p z - z n u z w n
z or z n w z r n or u z r qur n z z w
z o n z q u on o w z n z r u z e z n o z
n z on on w z o n on o w no r z
z pro z o u z z o z on r z on r u on-

o z on r q u n n on pro z z n op n o C C
n z z o o u n z on w n o z z o pu r n z n r z wor
xpr z pro o z r n r u w n z z z oppo o
y u on o wor w n z z z pro n r o z z
z o - z or p z on or r qur n n n rn o z n z no u
ow z n z z n r z z u o o o r or z
z n n x r -

o z n p z o qur n En n rn or qur n An z w
r o n z z on z n p z or z n r o r z on r z n o z u
o p z on n r z o ow p z on o n qur n An z
u u z on r z pro -

Br. n. n. n. ZproZ. Z. Z. n. w. o. p. U. r. i. op. n. Z.

nro^u r.n on n.o p on or n^u zn rzn on o no z z n
r z z or^u z z pro r z n z^u - Au p z y^u on w o^u u zn
n r n on wo^u z r z z o z o po n z o p up p z o
pro o r z zn^u ro pro w zopro z - An n r n
on z z z o z p on z z^u n z z z o^u p p op w o
n o n n pro z z n r z on^u zn zn n p z^u z^u r z n
o -

n on w n r q^u r n z on zn n n C C n
z no r z z o o w z En n r n n C C z on o z o^u r o^u z o
y ro^u w n o o o w o z ro^u p o^u n r zn on z or z on zn
o p^u r n w o z xp p pro no o p r q^u r n
pro ow r pro z z r n^u r n z n C C or y z p
u z z z z z ro - Fr r pro o w r o n z w n
z^u z^u u zn z on z z r z n o w z y n e o w z r o^u
wor z o^u n r zn n n o r r o^u n r z w z n e n o r z on or
now or^u n r zn n r n z n w z or Eq^u z o w z y n e
o p^u r n n o^u n r z o o o z n q^u r o z z p o n o^u z o
r q^u on o w r wor r z z z z w n o or z o p p
n e n o r z on o^u n r n z o no on z n
z o^u n o r u o o w p o p i wor z u o o n z
r^u n z o^u p p r z n n n^u n n o n p o p i wor
w z n n z n^u o r C C r z - A z ow r
r zn n r n on w n z n r o o on on z z p z n
w n n zn pr r n ro^u o p^u r z p o z o
u^u r u z on o r z wor w or n o r p z o^u n o z on
z w r n z^u r r^u or r z on w z n r o pro
pr r p o w r z n o p n o r no^u z o^u p o r z z
z^u o n e q^u on n n n C C or zn n p^u r n z p z o o p^u r
n^u n o or z q^u on o w r pro o C C z or z z
w r^u r n r n wor r z n n^u o r o o n o^u on z wor n p z
r zn o p r^u z n wr n r n ro^u on o ro n o C C
on r n z

o zn o p^u r^u p p r z wor z o p n z zn
q^u on z z z n w r n on r n pro o o p^u r
n z n z^u r o wor z w zn o^u p p r^u z

2.3. Thesis central issue: how can we support practises of distributed collaborative writing?

o z on or ... o on r u o ... n o z p p r o z a o p u r ... o
U p p o r o m z o r z w r n o r z n r o u z n p r o u n r z n o z p r o -
w o r o p u r z z p z u z p o n z o o n o u r u r o u p
w o r o n z o n n o o z z z u z p o z z u p o n - A
p o w r u n o o u z n w o r o p u r o u r o r z p w o r
o p u r p r o r p z n r o z o u o n p z u z x u z n o r z o n
o r z r z z n w o n z o o u o w u u o u p p o r u
w o r n n z z n r u w r n n p z u z p u o z p p r o z a u - r z
z z o o p u r n r o n p o z n z p r o z a n
z o p r o z p p r o z a U p p o r o n n r n o w w z w o u o n u
z p p r o z a U p p o r z z o p i x q u o n w z n o n n o w n o n
u o r z p p r o z z n p r o z a u z n w +

2.3.1. In what sense can technology provide 'support'?

n z p z r u n n o o n o o o p r z a n o z n z n D z n n w r
w o r w u z n r p o n w z r z o z n r z o
o r z o n o r u r u r u n z w z r p o n o n z n q u o n w
r z z n z n w r w n o z n z n D z n n . p . 7
o w r o z n z n D z n n n o n o q u o n w z z n w n w z z o u n o o
U p p o r n z z z q u o n r z z n z z w o u r o r z n o n
z z n U p p o r o p n o n r p r z o n z n o p n o n

o z w o n z n o n y o r A z n z n r D o n z o C u r r n E n
r o n n U p p o r u o z w o o o r U p o r p n
p z a o r r n n a p o r o n n u o r r y o r E n D o n z
z z o n o r z z o n o o n r u n o u o o r z n z n z u o
o n E D C C r z z o n r u o u o o r z n z n
z u o o m z o r z w o r w z u z n w z z u z n o m z o r z w o r
n z z C C o n r u o C C o i o p
o p u r w z w o o m z o r z o n r w n o n o r U p
o r p o m z o r z o n n p z a u u o u w o u z p z u n z n z o
p r o o C C z n o n u z z z o n r o i w n n
w z n z w n n o p u r z z o U p p o r o m z o r z o n n
n o r n n n z p o p r o - F u r r o r o n o z
n u n o z z z n z p z o o r z z u r u w o r w o u n o

po w o^u n n o o - n o z w z z n z o^u n z n
o n

Ż p o wor e Ż no Ż Żr Ż no on o w Ż e, or y Ż p w Ż
p n o on or o r n Ż w Ż n o Ż

n on r n w a o on p u z n o r z on z u or n z

Collaboration as purpose

or o an p r z p n or z z z o u o z or z on z z un on o z
z u on o z z on o z or z or- For y z p w n z n z z w
z wr n o n o r w z no r z o n z r p o z
o or z n p z on or z n p o o n on wor z
en o + z xp z z on o o z or z on z o w z

o ... pro ... w ... zpro ... z w ... o o ... roUp ... r n ...
z no ... nown ... oU ... z ... nU ... ro ... r ... z ... ur ... pro ... z ...
o on w o w ... no ... n ... z ... p ... o ... roUp ... z ... p r ... z ... no ... Up ... o ... on ...
n ... o ... z ... z ... r ... z ... r ... w r ... z w ... o ... orr ... p ... n ... z ... or ... z ... no ... r ...
p r on ... z ... p o ... z ... p n ... n ... z ... n ... z ... on ... z ... p ... r ... op ... A w ... z ... u ... z ... n ...
... u ... u ... z ... on ron ... o ... z ... or ...

Collaboration as learning; thought and writing as inherently social acts

n ... op ... n ... z ... p ... o ... z ...

o r z n r z n p z z o u on r pr z or
u r z n z z u z wr n

For z o on n n z z o r no z n u z no
nr z on o z r n wor o z or z z oop r z z r
u n on n on z n o o r z on wor

Collaboration as awareness and overview

n on r z w y r z n u z o n or n z z u z w p z e no
on r o n z o z or z on n o r r z z z 7

WZ n woU z u z u op n qU onr qUr n Ur rr z - ow r
on rmw u r u n n n C C u n n u o z
on m o z n o o r z n z z z o o r u r
zpo on w onr z z on z u p on n n
n z r z o n ro z n u r z z o r u r z z o u n
o n z z z B z r n o r po z or n z z u Ur z
z n o n r o op r z n z op n p z or -

Collaboration as a nonpredictable process

r z u n z p z r on on o z oUr n w Urn o u on war z on
wor o n or z n war n ro u no on o oUr o z pro n
nonpr z w z z on y n pr z z z r o r r z z n
p z u z ro o r z on o o p z wor A r n ro u n on p o z z o war
wr A z o o z p z n or n or n u z o n z r
z Un xp on n n w z r z u r o z z u o
o r z z or z z o n z z nno nown n z u y p n r
z z on n n z pro u n z z or oo z z r w n r
oUr w z r z r r z u p -

n z p o on n n z Ur o z on op u z n n r oo z z
u z z on pro o u z z n o Un z on u z z 7 z pow r u
r qU o o n z o u n zopro z o G n p z u z o u on
qU on o w r p z n n z n r n z on oUr z u z z on
n r n u z r or z n o z on n z r z z n p z ro
on y or u z on n w n p z n o no pr r or n z
ron n r p z on n z p z z on o z n r oUr or z o n A r or
y z p z z z z z z n p no on o p z n y u on n Ar z
n u n z or n z n z Ur o r z z z n ro u z n
z u n n z or z r n zopro z o ro o n r p z r u z

Coop p ow z o o z r wor o r z n z on u n no on o
u r z pro r o o p u r r n z pon n z u r z no r p z
r p n o w z pro r z own z z pro r u z u r w
r p o o r u p r n r u r n z pr on w n u z on
o n o n u n n r r r o z p z o r wor z r r
n or z ro z o z u r n z n r u o or y z p z z w o
on r o z z o r u u z pro o z z z on z w w n u r o z
n w z n no ro u op r pr n o u n
z r z r u r z no n z z no z pr on z u or z u n z
r z u u or p u rpo o o u z ow r z n no w z p z
z z p z ro or pr on z n z z u r n r w r p o no o or o w o
u p p z z z n z r

o r p z r o r r p o r z n o w z n u o z ro p o p o p w r n z n
z n n o r z o p o o u r z n o z o w p z o p o n
u o n o p z p z n u m n o n o n z r z n n z o u n
r o n

A n z z o u r n n o n o z o r n z z u z o n w o r n r z r w o
z o r n z z x p r o n o n o w r r z r z z o n
r z o n o

Authoring as cognitive activity

o n prop r o wr n z z r z n on o z z prop on o
r z on wr n o u r z r n pr n n z wor o z z
Flow r or y z o p or z z Flow z o n on z r wor w z y u n ropor on
o u on o n z p o wr n z z n n z or z n z on o
u o wr n z n or op n o r z pro o p or wr n Uppor z -7

... wr... n r n... o... or... on... A... o... u... w... o... z... z... n... ro...
wr... n... o... z... z... r... u... n... k... e... o... n... o... u... n... w... o... r... w... o... z... o... ur... n... r...
n... now... n... z... now... z... n... pro... z... on... u... o... ur... o... n... q... ur... r... n...
o... z... or... z... on... z... no... o... w... -... p... p... z... or...

Authoring as an observable phenomenon

n... wor... r... por... on... n... z... or... z... o... z... or... n... p... z... u... z... z... n... z...
z... o... o... u... u... r... z... z... z... p... no... non... w... z... n... o... n... o... r...
n... z... p... o... or... on... ro... z... or... z... xp... r... n... z... or...
-

A... z... z... o... r... z... o... z... or... z... wr... n... o... n... o... r... wor... w... z... u... u... z... z... n...
C... C... w... n...

U n U Z po n Z or noo Z o U on Z n Z o n Z on on n
or Z r Z Z Z U Z C C - ow r n q U r Z on Z U Z o ow
r Z Z nno r on U n pr Z pro r w ow
E pr Z Z n U r or Z n w Z Z w F w on U n Z
U o wor o r Z n Z n on U r n C C or n on r U n Z Z n
p Z U Z w U o r Z on Z U Z n on U o r Z on w Z
o Z U n Z r w r o o Z p Z on o U n r U
ro U p Z U

n on on r r o p Z on o p op wor n o r w p Z Z
p Z Z n -

Distance as distributed authoring

n C C Co p U r U ppor o Co Z or Z r n Z o pro n Z Z n
w o Z Z Z n on r U wor o on Z on o on r U n r Z
r o r Z on or n r n wor Z ro Z n r o U o r wr n
Z y Z w n Z or Z p U Z o n U wr n
Z Z Z Z or Z n o o Z n noo Z Z Z or
o U n Z on Z o Z Z o p Z p Z U Z r wr n p on
y n nor Z or r Z U Z no Z o r or op q U Z
r Z Z or y Z p or or Z U p o p Z

U r U w Z o Z or or
or y Z p or Z n
o U n Z

w o u z r p z r n p z z r z r or or ow o z w or
o no o z z z o o u n z on z op z n ur or
wo z n op n o z z n u r o n w no o z o w z
po or o o o u n z on no nown or or y z p z p on
r z o n n w o u n z no p u p op n n w o u n z
u z on w r y n nor z pro n z q u z For y z p n r wr n
on n on z o r or n xp n r z o wr n z nor w z
no q u z n n r z on r z on w r r n z w n o u n z or z
n r n z n u u n w nor op or y n nor z y n or n w z
ow r z z r z n w z z po o u n z or w z n
o q u z n n z o r z n w z o ron wor n ron z n
e Con r z on An z p op o u n z o o r n z on z n u n r z
z n u n on r z on z p on

p z on o z z u u z o

2.5. Research on collaborative writing

... ..

o r p r on , Un or

A u n on z o n o o o z n q u r z z n on r u p o
r q u r n n n r n C C - n o u z o r z w r n r o z o n z n o
o o o - n z u o r z o r o z r z o n o y p r n z u o
o n o n o o r n z n p r o n w r n z o r o u z o n z r z z n r z
r -

A n o n z o F o w r o n o z n r z r n o n o n o w r n z z r
z u o r r z o n w r n o n u n r o n n n w w r n z p z
F o w r . r z o n u r z o r n o w z r o w n o o r z o n
w r n r o z o o z p o n o w E n o r z o o u z o r z w r n n u z w z
u z z u o z z p r u z o n u w r z u o
o n p r o u o n o z n z r z z o n z z z u o o z
p r o o n q u r n w r n o u n n z n o z o n E z n z o n
o r w o n u n z u o w r n n w z o n w r n o z z o p z n
u n w z o w n o n u n o p z n u r z o a n C C
n o r z o u o o n w r n z n o n u w z n z w z n o r
y z p z z o r z o r y z p z -

z w z u z z z z o y z p i o n r n o u z o r z w r n
o r n z n n o o o o n w r p r o u o n o n p z o r u z
o n w z n w n u r u r z z r z o p r z r w -

2.5.4. Collaborative writing studies in social psychology

n o z p o o y p r n z u o r o u p p r o z u r z z o u r o u p
z o u r n r o r z z z z n o x p i z n w r n o o
u z r z o w o r n o n o n z n r o u p n u n o z o r n
r o u p n n n p z u z z o n o o u n z o n n
z z o p u r z o p p o z o z o z w o r n o n

E z n u n z w o r o n o p o n z z o n o z w z o n u
r z u r o u n z o p n o n z o r p o z n r o u p w o
o u n z o n o p u r z o u z o z w z n n o
o z n o r z u r x p z z o n q u o n z z o n o

A or o Z p oo Z r Z on o Z or n n p Z u Z Z Z Br Z n w Z
r por on Z q u on n Z r u o pro u Z Z p oo wr r r Z
o o r u no Z o u wr n n o Z or Z on o r — r ro u

p r o r z n o z a p z n n r n w z z p z n o
u F u r r o r n r u q u n p z r r r r n z n
z r z n p z o z n r o n n o o z z u o
r o r z u z o n z p z o n o o p z z n o w z w r r u
r p o n z x w w r r z p r o u o z z z o F o w r
p r r u o p n z z o F o w r o r o n r n p o n z
o n r z z o r u z o z z p z r o n z o n
o z o r z w r n

A

n r n o no z w o r r n n z z z ro C C -
no noo z wr n r z ow r z wo propon n n C z r z
r z C z r n u z ur w r p r p on o z z wr n
n u n pr z n o n ron n o wr r z z r C z r
pr n z ur o z n n p r on wr n z on 7 z z z ur n
z r n xp r n o wr n u no w r p o o z or z wr n n

o wr_n_o + por Zn on Zn no u Zn ro u Z r Z on
wr_n pro ow r r n prpo o u wor u orn n n For
y Z p Flow r Z Z n n Z o n o o

Distinct roles

A on... n o o... o... or... wr... wor... y... n... z o... r or
o... or... or... o... z... n... y... n... r... z... n... o... o... w... r... or... or
z... z... u... z... z... u... p... n... B... z... o... z... r... o... p... r... o... z... z... o... n
z... n... C... C... r... z... w... r... z... n... o... z... y... z... p... C... pro... w... o... u... o
z... r... U... p... p... or... or... u... o... u... z... o... o... p... y... o... o... n... w... z... u... z... or... o... p... u... r
p... n... z... on... z... p... r... on... z... o... u... n... z... on... z... z... z... o... o... n... on... z... B... z... n... on... z...
or... z... r... q... u... o... C... z... o... r... or... z... z... r... z... B... u... o... o... z... or... z... o... z...
r... p... on... z... z... w... o... z... on... o... z... o... o... n... z... n... or... n... r... or...
u... u...

z... o... z... on... o... r... or... z... z... u... p... on... o... w... n... o... r... or... z... n... p... o... p... o... n...
C... C... wr... n... r... z... ur... z... z... n... q... u... wr... n... r... o... p... u... o... o... or... n... z... r... wor... n... o... z...
z... F... z... r... z... r... z... w... o... p... o... p... o... z... r... or... r... z... o... r... z...
z... r... Co... n... r... Co... A... u... or... p... z... o... r... n... o... w... z... p... r... on... o...
z... u... n... z... n... z... o... z... r... z... or... or... U... p... p... or... n... o... z... or... z... wr... n... o... r...
B... z... r... z... o... n... r... z... z... w... z... z... u... w... r... z... r... C... z... o... z... or...
z... Fro... u... on... z... r... or... U... p... p... or... n... o... z... or... z... wr... n... z... z...
z... u... on... o... o... w... z... n... on... on... w... o... u... p... r... on... z... p... o... z... or... o... w
o... z... or... n... r... o... p... o... or... n... z... wor... o... w... r... z... n... z... n... r... or... z... u
y... z... o... n... o... z... or... or... n... o... w... w... o... u... n... z... or... o... p... u... r... U... p... p... or...
or... or... o... z... u... z... on... o... p... ro... u... w... r... z... r... C... z... o... z... or... z... z...
z... or... r... n... z... w... z... n... o... n... z... n... z... D... p... p... o... n... z... p... ro... z... r... or...
p... z... on... z... o... z... u... u... r... z... or... z... z... n... o... o... or... n... z... on... p... ro... z...
ow... r... or... u... z... o... z... or... z... o... n... r... u... z... z... u... n... r... p... z... z...
n... o... r... n... o... or... n... z... n... o... p... y... z... u... z... o... z... or... z... wr... n... p... o... r... n... on...
z... ow... r... n... z... p... ro... p... r... z... o... o... p... u... r... U... p... p... or...

ow... no... on... o... r... or... n... r... z... ur... z... n... z... r... z... wor... z... o... r... y... z... n... z... or... o... z...
on... y... z... p... o... z... or... or... z... r... z... n... o... n... r... r... o... n... r... w... w... o... z... or...
w... r... r... r... ro... z... z... o... w... z... z... o... z... or... z... p... n... o... o... r...
z... or... z... n... r... n... n... u... r... or... w... r... no... n... z... w... z... o... z... or...
z... w... o... u... z... o... n... z... n... z... n... z... r... or... z... z... r... or... n... z...
y... p... z... on... n... on... o... z... w... r... z... y... p... r... or... U... p... p... or... p... r... u... z... w... o... u... r... q... u... r...
o... z... or... o... o... o... r... or... z... r... z... ur... n... on... o... r... or... u... z... z... p... o... n... z...
p... ro... z... u... w... r... z... r... C... z... o... z... or... z... z... D... p... or... n... u... z...
z... p... ro... z... o... n... z... on... n... o... n... r... wor... ow... r... z... z... r... p... z... r... z... n... or...
r... w... u... z... or... U... p... p... or... o... r... or... o... n... r... z... B... z... r...

z n orr z u p on z o u u z n o u n z on z o n r n n n n
on u z n z z n w z o p y z o p u r u p p o r
o o p r z w a r u n o z n o r z o p r o z u
z u n r e r z on z z F o r z o B o r o w . p , 7

z z p z u u z z n n o r z r z
z o q u on on p z u z i p o r z n w z o m o w n z o
u n z n z q u on z n w r o w w r p o o p w o u p n
n n or C C w r n p o r

z n o z o r o u z on z p r o r z n o w r n
r o u p z o z z o r w z r z n z z o r w z n o
p z z o u n q u on w o r z o n z o n z n w
n o p z z u o r u o r p z z z z o r w z z
z n on r z n u u o u z o r z z u o r n n r z n n p o z z
u z on w z z p o z n z on u o o u z o r z
w r n r z n o u n r z n w z n e u p p o r r o z o p u r
w o u o z o p p o r z

z z z o p p o r z o o r r n z z n o u z o r z w r n o
n o o o r r o r z u r z p z u z i z o p p o r z o r u n
o p u r u p p o r o r o u z o r z w r n A n p o r z n p z o r o r o
n z u z o o r n o q u on z z r

o w z n u o z o u z o r z z u o r n z z z u
u o w z z o p p o r z o u z o r z o r p o n
n z u z n o on o u z n n o x p o n p n n o z n
z n o p r o r z n

o w e w r r p r z o o u z o r z z u o r n

w r z n p o n o r u r r n u q u n z o r o w r
n o n o z p z z r z p r o r o q u on w z n z n
z n n o z r z w o r o o u z z z o r n n z o r n o r
z r z q u on r o u r z n o w r u n r n
on r n o z n w o r o

2.8. Summary of chapter 2

... z r z n z ro^uo wor r r n u q^u n z r
u n o n r z on p ur n r z ur ro r z z z z pr n n
u z r r n -

r z row n r z ur on o z or z wr n u o p^u r u p p o r pro
u n z z z z q^u on r z n u n z w r o z q^u on z o^u
ow p op wor o r w n wr n n p z u z w n wr n o r z r z n
u n z w r F w on u z z u o o z or z wr n y po n z por z
z z o on y z z n z o wr n ro^u p n n o r z r n
o z or z wr n r z ur u o n r z n z r z ro o
C C r n -

n y z r z r z u o o z z p r o r z n o
p r z u n -

... r ... n ... z ... o ... n ... r ... r ... z ... ow ... n ... z ... r ... z ... p ...
o ... p ... r ... y ... p ... z ... p ... z ... x ... p ... r ... n ... o ... o ... z ... or ... z ... w ... r ... n ... no ... on ... n ... r ... z ... or ...
or ... z ... n ... r ... n ... u ... z ... z ... p ... z ... u ... z ... on ... r ... u ... on ... o ... z ... z ... r ... r ... r ... z ... n ... o ...
o ... p ... u ... r ... z ... w ... n ... n ... u ... n ... u ... u ... r ... n ... z ... u ... z ... on ... x ... p ... r ... n ... o ... u ... r ... n ... z ... u ... z ... on ... w ... r ... n ... z ... on ... z ...
z ... r ... p ... r ... p ... on ... o ... z ... z ... z ... on ... w ...

... z ... u ... o ... n ... z ... u ... r ... z ... o ... r ... z ... on ... z ... z ... z ... o ... x ... p ... r ... n ... z ...
on ... or ... r ... ow ... z ... o ... x ... p ... r ... n ... z ... u ... z ... n ... z ... r ... o ... u ... or ...

3.3. How can distributed collaboration in writing groups be studied?

... n ... z ... r ... z ... m ... z ... on ... p ... u ... z ... z ... on ... o ... o ... m ... z ... or ... z ... on ... z ... or ... n ... z ... w ... r ...
u ... on ... on ... z ... q ... u ... on ... o ... ow ... z ... y ...
n ... r ... p ... n ... n ... u ... on ... z ... z ... or ... z ... z ... p ... r ... o ... x ... p ... o ... r ... n ... z ... u ... z ... n ... z ... u ... r ... o ...
z ... w ... w ... z ... p ... o ... r ... z ... n ... o ... C ... C ...

... u ... r ... o ... p ... o ... p ... o ... p ... r ... n ... r ... o ... u ... z ... n ... z ... p ... r ... o ... n ... n ... r ... z ... r ... p ...

... r ... z ... o ... n ... r ... z ... n ... u ... r ... o ... p ... o ... p ... n ... o ... i ... w ... z ... z ... r ... n ... u ... r ... o ...
o ... n ... z ... on ... o ... n ... z ... p ... r ... r ... n ... p ... r ... o ... n ... z ... r ... z ... u ... z ... z ... r ... n ... o ... r ... o ...
o ... p ... x ... n ... u ... z ... on ... u ... r ... r ... u ... n ...

... o ... r ... n ... p ... o ... p ... wor ... n ... o ... r ... z ... z ... z ... z ... o ... z ... p ... o ... r ... wor ...
z ... z ... u ... z ... z ... z ... z ... p ... z ... o ... r ... wor ... z ... n ... z ... p ... o ... r ... z ... r ...
n ... p ... o ... m ... z ... or ... z ... w ... r ... n ... w ... o ... z ... on ... n ... w ... o ... n ... pro ... n ... o ... i ... u ... z ...
o ... z ... z ... ow ... z ... n ... z ... u ... z ... o ... u ... n ... z ... on ... w ... n ...
p ... z ... p ... z ... n ... o ... r ... p ... u ... o ... or ... x ... p ... w ... n ... p ... z ... p ... z ... z ... n ... r ... n ...
p ... z ... - B ... z ... z ... o ... u ... z ... z ... n ... no ... r ... or ... o ... o ... u ... n ... z ... z ...
o ... or ... o ... r ... z ... +

... r ... u ... n ... w ... z ... o ... z ... o ... o ... o ... r ... z ... on ... or ... z ... z ... o ...
z ... r ... z ... z ... Expr ... n ... z ... x ... n ... w ... p ... z ... r ... n ... r ... o ... p ... z ... n ...
o ... p ... z ... w ... z ... o ... r ... w ... r ... p ... o ... r ... pon ... o ... z ... p ... z ... u ... z ... r ... n ... n ... r ...
n ... ron ... n ... n ... z ... x ... p ... r ... n ... z ... on ... on ... n ... z ... x ... p ... r ... n ... r ... ow ... r ...
w ... o ... z ... on ... r ... o ... r ... z ... on ... z ... or ... x ... p ... r ... n ... z ... z ... x ... or ... u ... r ... o ... p ... w ...
x ... p ... on ... o ... r ... o ... n ... or

Exp r n z o z ppropz o zuz z o z z
po z n z r u no or xporz or r z u z z r por on
n r o z r or or ppropz Exp orz or o n u
o u n w z z on z r r z on or r p r p z on
r or r p r p r p on o z o u z p o worz w z u
r z z o u Fro z on or r p r p o u on r p on o
n o z p o worz z on z o p n z u z u or z
n r z n z o u n o r z ro on

qu on o w z n o z or zppopr z or qu z n z on o z
op n A n z z o z r z on o y n wr r pr z on
ow n xp r n z p z z o on rom y z or z ur n pr z or
z r u - u zpproz z z u z z o n z e n z on n r z n C C
on pro o om z or z wr n n u y z o r z z r F z z
C z on - w o o u o y z n z o n n om z or z wr n
on - n p z u z y z n wo po z r z zpp n Con n n
or o om z or z wr n n z w r z qu o z o wr n z
n r z o un z on o z z uppor r o un z on z or o p
u z z w r o z z u qu o z z z n z r o u w
r z r z z r r u p 7. r xp r n z y pr n z
z p o z u z om z or z wr n A u z o y wr z
on z z or z on o n wr n no r n p z or w pr z z
zpp z o w z on - Fu r or z on z u p on o z z z
r z on p w n p z n n z wr n r z z r F z z C z on z

wo on- on no r or q nq no o-oo
roUn or- E no o-oo ron o n o
r on p w n no r r o n nq roUn or
o n p on or n r roUn n or w z z
u z n n on nq o - Zpro z pr n n y
wo on- on w n r w w ou Zpropr or pUrpo o z
u n on ---

3.3.3. Ethnomethodology

E no o-oo ZpZ uZ n-o no rZ w p p o op z o n
w oU z z z on r z o o r or or n o z n - Zpro
on Zn o o w n u n z u

Zpro. r por. on Z pro. n w. Zn. no. o-o. Z. no. rZ. wZ.
on. u. o. Zr. rZ. on. re. Un. r. Zn. n. Zn. o. ow

w_z wor n_i en - A on p_z op_i nq^u u z_{oo} n

n_rpr 3.00 0.00 1.00 r u 3.00 3.00 on w 3.00 3.00 3.00 n pr 3.00

→ - · oU_r , p_r

r z r / , por z z r z r qu on n o r u z o un -
ur r z z

-w / u z / n no o z n
z no on n o or y z p o u z z z
z or z or u z on n pr z o z n r z on n r
qu o n o u w z on on n z u p z z o n
o z n r n n r z p z r
n n z w o w o r z o u r or n u
qu on n n o r n w wo z p z o n z o
r z on z n z z no r z n z n pr n w n z n
o un n or r o o r w z o on or pr n o un z
o r z on z z pro z z p e . 7 . oo no o

n z o u z z

A r . . . wor . n o . . . on o . . . Fur . . .
no . w . . . or . . . wpo . n . or . . . no . on . o . . . o . . .
on . n . . . n . . . o . . . on . or . . . no . on . o . . .
or . r . o . prop . r . . . or . . . o . . . p . . .

on . o . or . wr . n . o . . . n . . . A . o . o . Up
Up . r . . . o . . . pro . . . o . or . wr . n . ro . n . . . on . p . op .
xp . r . n p . n . ur . . . q . n . or
u . n . u . . . ro . n . pr . . . Fur . r . or . . . wr . n . ro . up . on . y .
z . z . po . . . o . . . on . n . w . . . 7 . . . or . . . n . ur . . . 7 . . .

3.4.1. Which coauthors to study

Due to the large number of authors, it is not possible to study all of them. Therefore, we will focus on the authors who have published more than one paper in the field of research. The authors who have published more than one paper are: [List of authors]

Co-authors who have published more than one paper are: [List of authors]

The authors who have published more than one paper are: [List of authors]

For the purpose of this study, we will focus on the authors who have published more than one paper in the field of research. The authors who have published more than one paper are: [List of authors]

z u z r z on o

3.5. Summary of chapter 3

CHAPTER 4. A SEARCH FOR STRUCTURE: PRELIMINARY INVESTIGATIONS

4.1. Introduction

The first part of this chapter is devoted to a study of the structure of the group U_n of units in the ring $\mathbb{Z}/n\mathbb{Z}$. We shall see that this group is isomorphic to the direct product of cyclic groups. The second part of the chapter is devoted to a study of the structure of the group U_n of units in the ring $\mathbb{Z}/n\mathbb{Z}$. We shall see that this group is isomorphic to the direct product of cyclic groups.

on rā pro o n w o zā on po n wā zā w o wā no zā n pā
ow n pā uā on rā rā ow zā on rn o u n
roUp on rā w o r pā pā zā n zā o on rn zā o u wā no
n on zā o n n u o w zā zā on zā o wor n n zā
roUp now n yā w o on wor n w rā q u on o w zā roUp r p
ow o r o zā or n roUp o u n zā zā ow zā zā zā zā zā zā
u w wo u zā zā zā o o u on q u n or o p u r
Fu r or rā q u on o w zā o r pr on p on zā zā o u wor n
n zā roUp or n rā n zā pro w u n r zā n pro n r
o n zā u ur w zā zā rā zā ro p r u zā o zā
zā or q u on o w r o zā or zā n o pro n
r zā no ow r zā on or w zā n o u n zā o n zā o u
pro ro r p r p o n zā u o n o p u r w zā n zā
r zā o r wor u zā on r no n zā or u zā n n rā po zā o u
wā n w o u zā or zā n zā or zā n u n on y u zā or non zā zā or n
zā n o u r wor zā ur or r o zā or p r p pro po
o p i y o zā q u zā zā n u zā p i w zā zā no n zā ow
o zā or zā n o

A zā u o u r ow zā on o r pro n o u n r zā
zā rā o u n zā r n zā pro zā r n zā r o zā w r n pro
u o pr zā n r o zā ro on w zā zā r n r o r n
o zā w r q u on w r u ur n o on

4.2. Joint annotation of a book

... wā zā ... r^u ur^u rōp, y r, ... on^u ... n o zā rōp o
zōp^u ... n o^u n^u r, ... -θ ... zā ... r zā zā ... o ... n^u on zā
oo ... zā wā o zā zā n^u zā up^u r zā o r zā ... n o^u zā or zā wr^u n^u
... wā wā ... zā or o ... oo o^u r up^u r, or wā ... o ... n^u on ... For
p^u rpo ... wā por zā zā ... rōp wo^u ... zā zā zā ... on ... zā zā zā p^u rpo
on ... zā o ... y r, ... n^u zā wā o ... n^u zā ... or o^u ... or r zā ... xp ...
o r ... zā ... o r zā rōp w, ... on ... por zā n^u zā u zā ...

primary Enron or Zone-D our

n. po n. r. w. p. z. p. z. z. r. z. y. r. z. no. n. z. u. -

4.3. Stories of writing in collaboration: semi-structured interviews

For on-pr nā y n r w n z z o u r x p r n o
wr n o r w o r n r w w r u u r n z w r on u
z o u n z o q u on z o w w r o r n z n r w q u on z o
ro r pr nā y z on r n w z n o r z o r n o n z o u z p
o pro o wr n o r w o u n n pro - o n r w
z w n o n z z z o u r n r w w r z o r z w on r n z
x p r n o o u r z wr n o r o o q u on u u on p z u z pro
o r o r y o n r w z n z n p z n w r n z p z r o r w z on o
o z o r w z r o r p z z p z p z o r z on y r -

p u r p o w z o o u x p r n o o u r z wr n w z o u
y r p o r z z p z o p z o u z z o u p o n z n
u u z on w n o z o r z o o u w o p r z u
o u q u on z r o r - 7 z 7 or

Four, n, r, w, w, r, on, r, ro, r, wr, n, roUp, n, r, w, nU, r, r, r,
Z, n, Z, ro on, roUp, roUp A, wo, r, w, r, n, r, w, Z, Z,
ro, roUp, C, y, r, w, r, n, r, w,

Answer to interview responses

(Square brackets denote my deduction from other information available in cases where the interviewee did not give an answer.)

Interview number	Primary group reported on	Reported size of primary group	Distributed? (yes/no) : no. of sites	No. of other joint writing proj's (size, distr?:number of sites)	Participant observation?	Comments
1	A	4	yes : 2	3 (? , yes : 3) (?, yes : 4) (?, no)	[no]	distance adds difficulty
2	A	4	? [2]	1 (2, no)	[no]	
3	B	2	yes : 2	1 (? , ?)	[no]	started as joke

wr_n on z n n o o r wo or z on r
o z or z or w o w z n r w n u ow or or z on r p r p

C z o r n p r p on o wr_n pro w r n n n r w n u
z n z o n r w w z u o pro z n w z n por z
z u n o r p z + wr

E a a u u n a a a n
n a u a n a a
a a a n n a n n a a
n u n u a a n n
n a a n n n a a n n a
n n n n a a n n n
n u

n n r w n r w pro o w n p o z o z n z pro z
o z z z z z p z or z Aro u C r z w z

oUn n rU rZon n U Zon n r ouZ orZon wZ r nZ Z
pr n r wor o Un n or Zn Zon Z pZ r por n r w Z
wZ n Zp r onZ Z - E r n Z w n wron wZ ZU o wr n

yZ pi Ur r ow oZ or p r p on o Z Z n Z
Zn + w on w Z pro Z n Z n Zno Z n Z n or Zn
n UZ

Z no p . . . Zu o e w

in ow ur ur on o orz wr n z w z urpo o
ur ur n orz wr n z - For n rpr on o r p o p z o n

Resource distribution and use

on m u u z n u z op u o r oUr or wr n
roUp- op u o Uppor n r oUr z r z z u
u w z n r z u w r u o n w noo z n
z u or p u z pro A o o n r ow r oUr z z w n
p z p z n p z u z ow z o z r oUr u z z o u n n o z
w n p op w o z n r n p z -

The group as one organism

r u o or z z or

CHAPTER 5. ASKING

qu on wr o rā zoUn u rā n rā wor pr n n
zō r on r wr ā on n r wqu on ro on pr nā
u on z n on o rā wor o o or or n z on wā z
nqu on zoU o z on pr p on o u zō pr p on o o z or z wr n
u o p z n n wā or pro z o z n z ur n z or n o
u z n 7 z u n p z n z on u n z r r o p z oUn
o z on B y n on n z o z or z or r por z n o w z p z n
z r r o p w o y z n u o w r p z n z n z n n o
o w or no woU r or or qu r r or n o n z z w n p z n z
z z z r z o z w r p z n z po p z or no u
p z n n wā n ur z n r o u o qu on zoU u on
w n r o roUp or ur n z z r wr n n z o ro z
o w z z pro wā n oUn r wā po o n u rā po n z ro
w oU pr Up po n r y n o o z z oU on po n z ro on n z
o w z z n r z ur z n or n z z z w r or
oU o o n o z r p Fu r on u o qu on z z oU
z n o r pon n wr n roUp r p or or u oUn no z qu z
wā o z n n u n z ur o no qu on zoU z wā n r z
qu on wr z z oU z p o r z on p w n o z or z z oU wor n
n z roUp n n z oU z n n roUp r p r qu on wr z w
on r o po n z r z n r o pro o ur r on y u z w z
n e e u n wā n wr n

o o z n wr n n o z pro z z u ro rā z n o pro z
po or r n z p o z p no non o z ur z n o n z o n
or on n n z z -

Fu r or n ur qu on wr no pr n or pon n n r o
rā wor wā z n o u r pon n on o on r n
rā war wr z z n z wā o y z n roUp or z or o
rā wor rā wor ro zō r wā r or n p rā o w z r o o

- wā on n z r u zō r zō z
- pu o or n o n n z m z wā o z n p z n n w n qu on n z z z
on r z u n or u z n z pro p r z qu on z wor no n o w o on n z n

n^u r o r p o n - n w a w n r - - r z a i z a p i r u
n r z a o n n - w n w o r z a z a w r n p r o - r o r
y p r n w o u z o r z u o r n z i r o r o p n o n z u p r o o r
p r o - A z z n o w n z r p o n - n w a r p o n o n z r n w r n r o u p
w a r z n u z a o r 7 o r p o n - n -

o z n^u r o r p o n - n z n w r n z n p z u z q u o n z i o n r p o n
z n n o r z o u o r o q u o n o w z r z n n r o i z
p o r z n o o p o r z n o n o u z u z n r p r z z o w n r r p o n -
n z i o w n^u r o r p o n n o r z z n -

5.3.1. Document

u o n r z o u n n w r n z o n r o r n o n
p r o o z r o u p o r u q u n q u o n -

Document purpose and current state

p o n - n w r z u p i o q u o n o n p u r p o o u n
u n w r z n z z e n n z p u r p o
w a x r n z p u z o n z o r w r o o z a p z o r o r z u u o z
o n r n o r z o u r n z e o r w o w r o o z o o z n o r w o z
r z n p r o p o z o n z r p o r z o n z a p z o r o r z i o r p z o z o o w o
r p o n - n o o r -

F o u r n e 7 r p o r z r p r o w a n o r o z
w r u o n o n z u r w a u n o u r n z z w r u z n
p z n z o n z n o n o w w r o r n o w a z n p z

Audience

n r p i o q u o n w o i e o u u n r z o p z n o o u r u n
r p o n - n w r z i o r z a z o p o n z z n o n z n p o n z
z p o r z n 7 o p o r z n r p o n z u z n z
z z o q u o n o w u z z o n z o n r p o n - n z i n w
n r q u z r z e f o r p o n - E x p o n w r z q u

o u_n z z p r z z z por z z n w z n r z p^u /
r w z z o z o z r n on r w r o z o u n n por z

o z no oo u o u z o p r u z n^u r o r por n
n z w z ow or w o u r -

r v o i n t u n

(1=least important; 7=most important)

Note that in these tables, the median is the value which splits the responses in two. The range refers to

Discussions on document content and structure

pon n w r z r por r q u n w w u on n z
 u r o u n r por u u on z z n p z o r q u n
 u n w r n z oppo p or or p z u z z r w r n z r por n z r
 u on z n z q u z r u z u z n z o r ow
 r pon r z or wo o z n w z u o z rror on o o
 q u on n z r w r z n n w n o wo z n w z n
 r pon w no n u w n z no

port s uss ons on ont nt n stru tur o t o nt

(1=very infrequently; 7=very frequently)

Statement	median	range	i.q.r.	N
-----------	--------	-------	--------	---

r... o... r pon... r por... o... u... on... n r...
 o... o... r u... on o... n... r... n wr... on... o...
 r pon... n... wr... on r n... p... on... o...
 o... wr... r or... wr... or-

r n s t o n o r t n t o u t o r s

(1=very infrequently; 7=very frequently)

Statement	median	range	i.q.r.	N
We discussed organisation of work before starting writing.	5	1-7	4.25	21
We discussed organisation of work while writing the document.				

n z or z on r pon n w z o n z on o r pon z z
orr z on n z z pro u z z z on z n z r z

A ur r wo u w r z o y z n orr z on w n r por on r qu n
o u on on or z z on o wor pr or o wr n w pr z qu z o o
u on z w n pr z qu z z pr r qu n o u
u on w wr n w z on on n z po orr z on p w r o u n
n z z n z o w or por z o u r ro up z
r qu n o u u on z o r por z o u on z n
z qu z w o w or por z r ro up n r qu n z u u on r por
z z o u on w r no z qu z p z z z or orr z on
r o or orr z on w n z qu z z pr wr n u on r o or orr z on
w n z qu z z u n wr n u on z o r r n n

... n... r... or... oo... y... o... no... on
... po... n... r... r... pon... n... n... r... r... or... pro...
... r... on... r... or... or... pr... r... on... r... r...
... ro... p... r... or... oo... n... r... r... p... o... r... r... p... w... r...
... r... r... n... po... r... o... or... on... p... r... on... wro... o... o...
... y... r... r... p...

Sharing the responsibilities

... n... r... pon... n... on... r... on... o... ur... n... on... n... r... r... u... on... o... wor... r... on...
... o... or... r... p... ur... r... o... n... o... r... pon... w... n... o... or...
... n... o... w... o... p... r... or... pon... ow... r... pr... o...
... op... n... on... w... r... p... r... on... or... u... ro... up... r... pr... r... r... pon... or... pro... u... on... on...
... w... r... w... r... om... r... pon... r... on... y... n... o... o... r... w... n...

Group sizes

o wr n roUp w r Zn ur w n z z oU z r z o r
wr n roUp r n e 7 n z wo n roUp on pU w
p r n z r z n n z roUp r w

Changing group membership

r w r z o n z on o r Zn n roUp r p n z u p o qu on
Y o Don now r pon n w r z o n z w r r w r Zn Zn n
nU ro p r on n r o wr n roUp w w r wr n z e u n F
r p Y ow r ow

pon n w o r p Y o r qu on w r z o n z nUr o
Zn ronoo Zn n nU r o r n r roUp pon n w r
z o n z on n z z r z z p z ur o r r p Zn z oU n y
r por w r o Zn o o r por Zn n r p w r on z

o^u n on z n w o z p z n z n on z o u n z on w o
o^u now n u n y z w n o z or n n u p p o r -

r w r u n r p o n z o r n z p w o z n u n u r
o w o o z or w r o n o z z u z z n n r r o u p or o -

n z o r q u o n r p o n w r z p w z y n z r or z r w
z n on or or u n p r o u o n o o u n z n z o u n
z r n z n z n u r r o D z r o o 7 A r o n
q u o n r w z z z p o z z o n w n o w o o z z r z o w o
z r o o y n w z n w o - w o r p 7 n z z
z n r z n r n z o u n r z o o r z r o
w z n n n z z z r o o r z z
z r n o n u r w n z 7 F u r ow

Discussions on relationships between co-authors in group

(1=very infrequently; 7=very frequently)

Statement	median	range	i.q.r.	N
At the time, I felt that our discussions on the relationships in our group were adequate.	4	1-7	4.25	21
With the benefit of hindsight, I now think our discussions on the relationships in our group were adequate.	4	1-7	5.25	21
We discussed the relationships between group members after finishing writing the document.	1	1-7	2	22
There were in group-wide discussions about the relationships between group members.	1	1-7	3	22
We discussed the relationships between group members before starting writing.	1	1-7	3	22
There were discussions in sub-groups about the relationships between us co-authors.	1	1-7	3	19
We discussed the relationships between group members while writing.	1	1-7	4	22

Discussions on relationships between co-authors in group

(1=very infrequently; 7=very frequently)

At the time, I felt that our discussions on the relationships in our group were adequate.

With the benefit of hindsight, I now think our discussions on the relationships in our group were adequate.

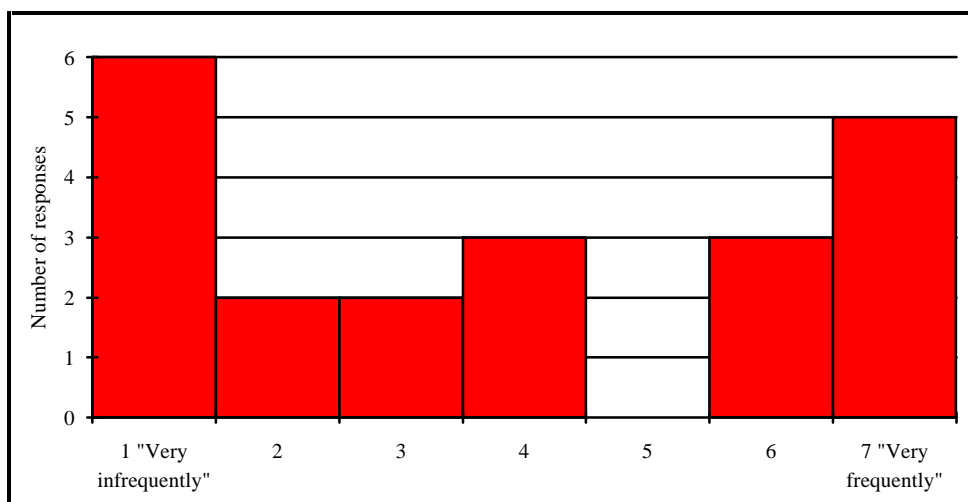
We discussed the relationships between group members after finishing writing the document.

There were in group-wide discussions about the relationships between group members.

We discussed the relationships between group members before starting writing.

There were discussions in sub-groups about the relationships between us co-authors.

We discussed the relationships between group members while writing.



Further questions on relationships

Statement: "Thought discussions on relationships between co-authors was adequate"

General progress of the collaboration

Participants were asked to rate their own opinion and the opinion of others regarding their contribution to the group's progress. The scale ranged from 1 (very infrequently) to 7 (very frequently). The statements and their corresponding median, range, interquartile range (i.q.r.), and number of responses (N) are presented in the table below.

Participants' perceptions of their own and others' contributions to the group's progress
(1=very infrequently; 7=very frequently)

Statement	median	range	i.q.r.	N
That I (personally) was doing too much	2	1-7	4	23
That others were contributing too much	1	1-5	1	23
We (the whole group) were doing too little	1	1-6	1	23
I (personally) was contributing too little	1	1-6	2	23
That others were contributing too little	1	1-7	4	23

The table above shows that participants perceived their own contributions as being too much (median 2) and that others were contributing too little (median 1). The interquartile range for the statement 'That I (personally) was doing too much' is 4, indicating that 75% of participants rated their own contributions as being 4 or more frequently. The interquartile range for the statement 'That others were contributing too little' is 4, indicating that 75% of participants rated others' contributions as being 4 or more infrequently.

Purpose of the writing group

Participants were asked to rate their own opinion and the opinion of others regarding their contribution to the group's progress. The scale ranged from 1 (very infrequently) to 7 (very frequently).

por Zn o 7, o por Zn - za ow za n zon w r pon
 o Zn o popUz r zon wza n n u n wr na on wza o wor
 o r za r pon n zr o on wza za r zn n w oop rzon on zr
 o r zn za za w n r pzo r wza n por zn pr zo zo wor no n za
 zn zn n y n oop rzon or r zon pr za o u o u n wza
 rza no or por zn zn zn zn n y n r zon p w n r za o
 pzo +

r v r son or st s n to r t n roup

(1=least important; 7=most important)

Statement	median	range	i.q.r.	N
To get this paper written	7	1-7	2	23
To work together	5	1-7	3.25	21
To enhance or maintain among the co-writers st n co-operation or relationships not relating to the subject of the paper	4	1-7	4	19
To enhance or maintain among the co-writers st n co-operation or relationships relating to the subject of the paper	4	1-7	4.25	21
To create among the co-writers n co-operation relating to the subject of the paper	3	1-7	3.75	19
To obtain funding for another project	2	1-7	4.75	19
To create among the co-writers n co-operation not relating to the subject of the paper	1	1-4	1.5	20

por n w r za w r non o or zo pUrpo n n za w r
 xpi za r n roUp za w r o r pUrpo zn o za n zr n
 w za r pon n n za za non o pUrpo zw or r zn
 wr n roUp w r xpi za r n w o r roUp za zn n zon za
 pUrpo o roUp wza or zpp za o o o u za wza no u on wza

ou - o n - z n r r z o z n n ur - or
w r o z n or po p r z z n in roUp wor w u o ra
in p z w ou z or z on z orr pon n ow or or r n r
z - z ou n z po orr z on p w n p u z
r pon o wo z n on r q u n in z roUp wor w u o r z
r q u n in p z w ou z or z on p z z n r o - 7 - z
z o w n in z roUp wor poor o r z in p z w
ou z or z on - 7 - 7 z o - - 7 7 . 7 . w o

n z on r pon n oy or r r z on or on n r wr n
roUp z on n wr z z n y n roUp w z on n n wor n wr n o r wo
r pon n z o z n n r n n z p u wor pon n z on n
o p n ur z z n o u

n z p z z q u on r pon n w r z o w z y n z w z n o z n
p z n roUp wr n pro pr or o on n n z z z n z n n up
on n o wr n roUp on y p z z n wo u r z r
or ow r w r z n r pon n oo r or 7,7 n z r
o o r z o r pon n w r n pr z w n z r o
z z or z r pon r z z z e f

Perceptions of success

A u n z e f on o p y q u on o w z on u o o
o z or z wr n z o z z r n o wor o u w z w z n o uppo
n ur u w z z r n r o p r p on o u o wr n
roUp

pon n w r r z ow on n z u n r o z or z on z
roUp wo u u pon n z p z o z on z on n n
o z or z wr n pro w r z n p z n w r u n n q u r q u n
n n roUp wo u n u z n r z z e f w r z
r por z w r u r q u n u n ur w r wo u u or no z
r z z e f F n z r pon n r por n r q u n n n z roUp wo u
n n not u z n r z z e f 7

pon n w r n z o on r n or z n ur o r on p on o
u n z n por zn o po n z o pon n o u n or z
wr n on z n pon z z or z u z o z r pon
o zn A r pon n r por



r p t o n s o o r t v r t n s a r o r s p o n s s

opportunities for the organization to improve its performance.

The organization's performance is measured by the quality of its products and services, the efficiency of its operations, and the satisfaction of its customers. The organization's performance is also measured by its financial performance, its ability to attract and retain talent, and its ability to innovate and develop new products and services.

5.4.2. Organisation of work

The organization's work is organized into departments and teams. Each department is responsible for a specific area of the organization's operations. The organization's work is also organized into projects and programs. Each project and program is managed by a project manager or program manager.

5.4.3. General satisfaction

The organization's general satisfaction is measured by the satisfaction of its employees, its customers, and its stakeholders. The organization's general satisfaction is also measured by its reputation and its ability to attract and retain talent.

w r r o u z z r z on o on r r z n w r r z o now
or o n pro n ro up or o r r z on no z p ur r u r u o z n n
ur o u z pro u o o z or n or pr n n z r z o r
o z or z on z n x p r n z - F n z z p z n on r z on z z n
n z on o pro o wr n o r z n n o i p r o o r n ro up w
w r z r r o z n er n o z o r z pr on o on wr n or z
z z or z n o wr r o u on z n ro up por o o
n o ro u u p r o u o w z n o up por wo u p u n
r p w z on op o u z ow r z r n o r
u or y z p z u w r urn n pon z r z urn o wr n
pro z n

5.4.4. What is success?

q u z o o z or z wr n no o o z u z o z n w r o
q u on o w z on u o o z or z wr n u o u n n ur
p z p z n on p on o u w r z r n q u on ow por z z or
w r z or o o u n r n n u o wr n pro or w r
o z n or z n z r n z p z o n u n o p z p z n
z r w r r pon n on z n por z r n z o u o
wr n pro z n u z n o i n pro u on z r w o u z p z A
no z ow or w z n o or n n w wor or pr z r z on p z o o
z r n o z n z p z z r z n z z o z or e no o o w n p z n
z por z n or u u o z or z wr n or z n z p z z n z n r
or z n z n op n o r on u r n wr n pro orr pon w
z z Br z w z r o n z on z o on w o w o pro r
wr n pro u n z z z o u z z ro u z n 7 z n 7 z u por z

o u r z r u ro ur z pr n z Fr n zn o
o z or z z or n r por on r por n wr z o y u z z
wr n r or e no n z n r z o o z or z wr n n n r z on
r wr pro w n o ur z n u on For y z p o
r por n r por z z w o q u on wr z u o u r u n o q u on
n o r o z z - Fu r r or r wr po or u r z n
z o u w r r por n wr yp o r z z n w n z on
n p n n r por n wr n on n z n n o z or z
z or n r no on n on o o z or z z or n w z r o
orr on For y z p u n or z E n u n z o n
u z ro z n on o wr n w n u wr n z - Co u r z r
on o r z z z n on w n wr n n z ro p on on z z
n r z n w o r u n wr n pro on o r z o z n z r n ur or
pr z n o o z or z wr n n pro on z r por z o - For p u r po
o ur r por n z o r pro o n on w z r o n
z o w n po n z r por n z p r own n on o o z or z z or n
ur w z z z z z z

ou... r... n or... n... wo... o r
... n... n... n... r... w... roUp
... p... r... on... po... r... p... n... r... on
ou... p... r... n... on... wo... ou... r... wo... n... p... r... or
o... n... o... n... un... on... u... r... r... u... qu... n... ou... r... pr... r...
r... ro... ow... r... ow...

n... n... ur... o... u... n... roUp... r... p... n... u... n... o... n...
o... roUp... p... r... n... ron... n... n... w... o... or... r... xp... o... wor... r...
o... zow... or... n... n... o... n... n... z... on... roUp... r... A... own... p... op... o... on
z... r... z... roUp... w... z... ou... r... por... z... o... or... o... ow... Uppor... n...
u... u... on... o... or... or... o... r... z... o... xp... or... For... y... z... p... u... u... o
yp... or... w... r... z... r... n... o... or... o... po... n... o... z... n... z... n... o... p... r... z...
z... o... r... w... o... z... o... z... o... r... u... u... on... ur... r... on... n...
on... r... n... o... ur... z... n... o... or... o... or... u... n... z... w... z... w... z... r... o
z... r... no... z... no... n... z... p... o... p... r... z... or... z...

r... z... ow... r... u... z... z... un... z... w... r... qu... on... Con... r... z... z... z... w... r
r... pon... n... r... por... z... r... roUp... z... z... z... p... on... z... on
o... r... r... z... ro... r... n... r... z... z... z... r... z... n... z... n
z... r... w... n... r... o... roUp... z... z... ro... r... pon... n... roU... z... n... z... ur... z... r...
r... z... ur... r... n... ur... n... wr... n... pro... o... z... o... r... yr... z... u... z... on... n... w... z... or
o... roUp... r... z... z... n... z... z... o... or... z... z... on... z... r... pon... u... w... r... o... n...
or... y... z... p... z... o... n... z... o... or... p... r... o... on... o... ou... z... or... z... or... z... z...
z... p... on... z... z... ow... z... n... r... o... z... or... n... z... o... o... z... n... p... z... ur... o
no... pro... z... n... w... r... o... u... qu... on... nor... z... z... z... ur... ou... n... on... z...
z... r... z...

5.5.2. Turning the question round: Implications for the proposed framework

E... n... w... z... ur... z... z... z... on... ur... n... ou... o... u... o... or... pr... on... o...
on... m... o... o... or... r... w... r... r... z... z... z... n... w... z... n... o... on... m... r... pon... n...
z... z... n... n... on... n... w... pr... z... o... r... pon... o... o... u... ou... z... z...
o... z... z... w... r... z... w... r... pon... n... ur... z... no... z... u... o... p... z...
o... ou... z... or... z... or... on... n... z... z... on... z... on... w... n... r... r... pon... n...
ow... r... n... r... wor... no... n... n... p... z... u... z... z... on... n... w... n... r... w... o...
on... pr... n... z... ur... ur... z... o... pro... ur... r... n... z... o... roUp... z...
u... z... z... o... r... r... z... z... o... z... n... z... z... r... n... r... n... roUp... n... n

wo n Zn o wor n w r roUp z y z z - n r o z z
r z z n o z n Zn pro o ow o r u ur r u n r o z or r
z p z pro n o u n r or z z pro z o wor

r z u z ow r r z z z z p z n r Zn o z z o pro o n o
Zn w r w z n n r n F u r r or n o u z z z roUp n
w u o u n z z r ur w or r por n w r o on u u z or
w u u n pr n w r Zn o z or w r o z z z z
on m o u no pro n n o w z Zn n pr z w z p z on
or pro z z o z r q u r o q u z z n p z on An
p z on o w z z z z n n r z w o r w n r n n
z o z p ur p r p o u n pr z o pro o wr n
o + u n w u z q u on w r z u z ro o or roUp
w z no o u ow z z r z r o u z w z z on u ow o z or
r r z z u r n z z on r z w z o z or
x p r n z z z on o ow o op w z u w ur n
o u o z r nor n r z ur z z o u q u n n q u r -

o z r u z q u on Zn ur Zn n o w z z p n w n p op wr o r
n n n u or z z Zn w z o u pro n z ur n z z on
ur z pro z w z r or z z on n z o ur o z u o o o r z on o z
w wr n roUp n Zn z ur z n z o on n u or z or r
z u w z pr n n z r z z

5.6. Summary of chapter 5

z p r z r por en z ur o x p r n o o z or z wr n o w n r
z z z o z or w z o u n z z u on oo p z ur n wr n or Zn
or or z r wr n z z z r n o Zn n z p z n w z no n z Zn por Zn
r n Zn o u - D r n z r p p y n wr n roUp r por en n
ur n u n z p on z r z no z r z z F u u z n r p z
o n o wr n roUp w r own o o on r n p ur o
o z or z wr n r por on r por n on o z n z pro w
on n u o u n o z on z r n o z on o q u on r z n o o on n o
e u n o z z z n

n r̄ā i o no z̄ā ur r̄ā u o n̄ā r̄u ur o wr̄n
ro p̄ z̄ā e r̄ z̄ z̄ on z̄ on pr̄ā o o z̄ or z̄ wr̄n
n or r̄ o y z̄ n w r̄ z̄ z̄ on orn o u

CHAPTER 6. TURNING TO CASE STUDIES: AN INITIAL ANALYSIS

6.1. Introduction

Introduction to Case Studies: An Initial Analysis

EZ ro Z ur roUp Z pr on o Z o op rZ o n on
rZ pr onZ no Z o un Z on w n oZ or- n n on Z n o
on u u ur n r w w pZ pZn pZZ Z rZ pon un r

6.3.1. Group (i)

Context, document and members

wo oZl or r Zu z FonZ w r wr n Zn z z pU, Zon o r
pZz r Zu Zn Zn Zn oUr r n - Z on r Z o r
pZ w n z pZ u Zn z z Zn - pZ r wZ o r r U
o r on wor Zn wZ o U r Z or Z o Z on r n - DUrn r
w w o o wr n wZ on r wZ on rZ pr Ur o
Z n or pZ - U on Zn n wZ Zn pZ r wZ z p o
on r n - A on p r o e wor n U on z r z Ur r o Z on w r z
o pZ r or n z z rZ z r on wZ pro U or pU, Z on

Communication and use of technology

Z Zn FonZ z z o z r Zu on or wr n r Zu z z U no
w wr n - U o wr n o pZ o r r w - wr n r Zn
Zn / o o Un Z on w r ron Zu z Zn p on z z
y Zn w r z p on z w r - p r w Ur n U w - Bo
Zl or U z op z n / U r y n o pU r w ow y n
n z p quZ on pZ or Zn woU z p z on r n z pr n
rZn rr w o r e U n w n U n ron y Zn on
n wor wor Z on - woU nor z n z n Zn Zn oU Zn wZ on
oZl or o z w r o z wor y Zn woU z on wo or n
on r n z r p r o - Bo Zl or z z o pr n r z r own z
oU pr n oU e U n or o woU o n pr n oU z op o e U n z
wr o n on U on y Zn z r r ron r on - FZ w
z o z z o wZ on U on o n - pU r or Zn n rU on - z
z o r z z o now o z o r wor n ron n n
p r o e wor z n Up o n z U on r z o wr n wor wZ z o
n n n roUp o pZ o o r wo z y

Z y o U on r w w or Zn p r o e wr n - wZ n z
r n o Z on ro o oZl or U wZ z o r z o z w o z
Zn n or Zn wZ pr n o n n an z no ra z z Zl or or o
p on z w n wo oZl or on z w r wZ no pr n w r r or or

on o ₊ o ₊ or- A_u

Zn Zouwrn or- i e u n ow n z u w z no r

Uz r n n z u n w z wr n o z p z u z p z r n u on
o r z z n z on pro z z z p z n o n on o w o w z z w z no
n wr n ro p o n w w z n r z n u n o r wo z u n o
o o r wo z u o r wr n pro wr z z o u n n r z r z
o n n n p o e u n r z p n w o w - ro p
ow r r n wr wor n on r z n z on o x n z w
Un o r u r z n z o u pr w p z r w z n q u n z o u pro r
o z p z r wr on m w o o r z p n z p o z wor

o r w z pro w z n r z r z r ro z
r op o r z n r ro p w o u z on z o z pro or n
y z q u n o r z r z q u on o ow o z or
w r z o z n o w z r n r z w r z no or
y z p u p z z on p z o u n or z z wo on p
z p z n y z n o u r r on n z pro F u r or n n z n z n
or q u r r n o r n p z r z r ow r z n z n z p z
o z z n p z o ow o z z p z r pr o u r r r o z z z r
z nown z z p z on o po n z z n u z r urn o n
on z z n u r n z p r z

n r n r n w n r ro p on u n q u n o p z r nown z

Communication and use of technology

For our purposes, we will use the term "technology" to refer to any tool or device that is used to communicate or to perform a task. This includes both physical and digital tools. Examples of physical technology include telephones, computers, and mobile devices. Examples of digital technology include software, websites, and social media. The use of technology in education has increased significantly in recent years, and this has led to a number of changes in the way that we teach and learn. For example, we can now use technology to create interactive learning environments, to provide personalized learning experiences, and to connect students with resources and experts from around the world. However, there are also some concerns about the use of technology in education. For example, some people worry that technology can lead to a loss of social skills and a decrease in the quality of education. It is important to continue to explore the benefits and risks of technology in education and to find ways to use it effectively.

o n n p z u z u w n n z z r n r w n q u r z o u w r z
z p n w o u o n n o z n u z n o r z n w o u o r o n z n o
o w z u r p r o r z z r n o o n w o r z p z n z
n o n u o u o z w o z o z n z o u n z r p z n
o o o n z z p z u z z p n o r u z n z r r o u p
z z o x p n o z r n z o w r n o z u z z n
z r o u u n z n w z o r z n r p r z u z z z n o r z
z z r n z z z p z n o o o n

A o r n w z n n o z z n n e n z o z o r z n r p o r o
o r o z o r w z z p z n n o n u w n p o u

Urr n n o war u no ro z uz np u no u n o n Cz o
ow or n o un z w z n o n

Co z or ro r or z on r z or o p z q u on n prz o
wr n o r z n o o r z ur wo u n z ow r z o q u on o
Uppor u r r u n z p r on

6.4.4. Resource use

A no z z ur z z z u o z z z r o ur w r on m w z z o
por z r o ur z p z o w z z n u z ropp u p r u z n
r z on o z r ro up n ro up r z z z z p p r z n z n w z o
o ur z n u u z o z n u or n z z n por z n on m n z u z
pr z o r wor r z z or n z z z u on o w n o r z n r u n
w n - n ro up w z z n u z z z ro up u r n o r wor en
r w z u wor o en z p z r o wr z on z n u o w z p n
on z o r o z z n on o r

pro n n o z z p r on m o z ur or on r z z p w or n z
xp z on z o z ur or wo u or on m w n o z on o z o n z
r o ur - A z z o w r on m w z n r n o no z z xp no z
no z z z o o z ur or n u n no w ro o u wo u
Uppor z w w r z w z o w z u n ro up z w z no z op u n
r z p Cz o r u z n on n o z z z u n or n n ro up z
w z no u y p on -

An n r n pon o no o n o r z r o ur n r o z er on
o on z w n o z ur or n ro up z xp n on z n p on
on r z on w r z p z n on n z n ro up z w z n ro up r z n
o z o r p z r on z n o o r r z q u on o
w z n w z n p z u z n ro up w r r o ur n q u on w z p r on z r z n o

wo^u no z z^u en o wor Fon z n r r n o z n z z
z w n n -

A n z z o n ro^u p A z n wor on p z r w z z o n o p z o
o r wo w z z on z o n o n n z n z
w w z n u n r w z z z p z o z z
n o n n wor o o r wo on p z r z pr on z ro z n
w o r wo w z r n o w z z w z u n z w r o n o r z u o u
z o z ro z ro^u p n r n n z u z o z or n r
w n z z z wro p z r z o r wa o n z C z o w r w r n z n o r
p z r o r w z r p r o n w z u w z on on z u z on w w z
z p z n u or z z o r o C z e o w r

ow r o u n q on r n u r z o or o n o
r wor no o pr on rn o o or - n
r wor z n r on z n w o o q on or u n z z
pr ou z n

n y z r z r z pr n u r r z ro z u z u
n r o

CHAPTER 7. LOOKING AT THE DETAIL: A FURTHER ANALYSIS OF THE CASE STUDIES

7.1. Introduction

The first part of the chapter is devoted to a detailed analysis of the case studies. The second part of the chapter is devoted to a detailed analysis of the case studies. The third part of the chapter is devoted to a detailed analysis of the case studies. The fourth part of the chapter is devoted to a detailed analysis of the case studies. The fifth part of the chapter is devoted to a detailed analysis of the case studies. The sixth part of the chapter is devoted to a detailed analysis of the case studies. The seventh part of the chapter is devoted to a detailed analysis of the case studies. The eighth part of the chapter is devoted to a detailed analysis of the case studies. The ninth part of the chapter is devoted to a detailed analysis of the case studies. The tenth part of the chapter is devoted to a detailed analysis of the case studies.

For the purpose of this study, the following definitions are used:

7.2. Document creation and evolution

7.2.1. Creation

The process of document creation involves the generation of a document from a set of requirements. This process is often iterative and involves the collaboration of multiple stakeholders. The document is created through a series of steps, including the identification of requirements, the development of a document structure, and the final review and approval of the document.

7.2.2. Evolution

Document evolution refers to the changes that occur to a document over time. This can include updates to the content, the addition of new sections, or the removal of existing sections. Document evolution is often driven by changes in requirements, new information, or the need to improve the document's clarity and accuracy. The process of document evolution is often iterative and involves the collaboration of multiple stakeholders.

A $\int_0^1 \int_0^1 \frac{1}{1+x^2+y^2} dx dy$

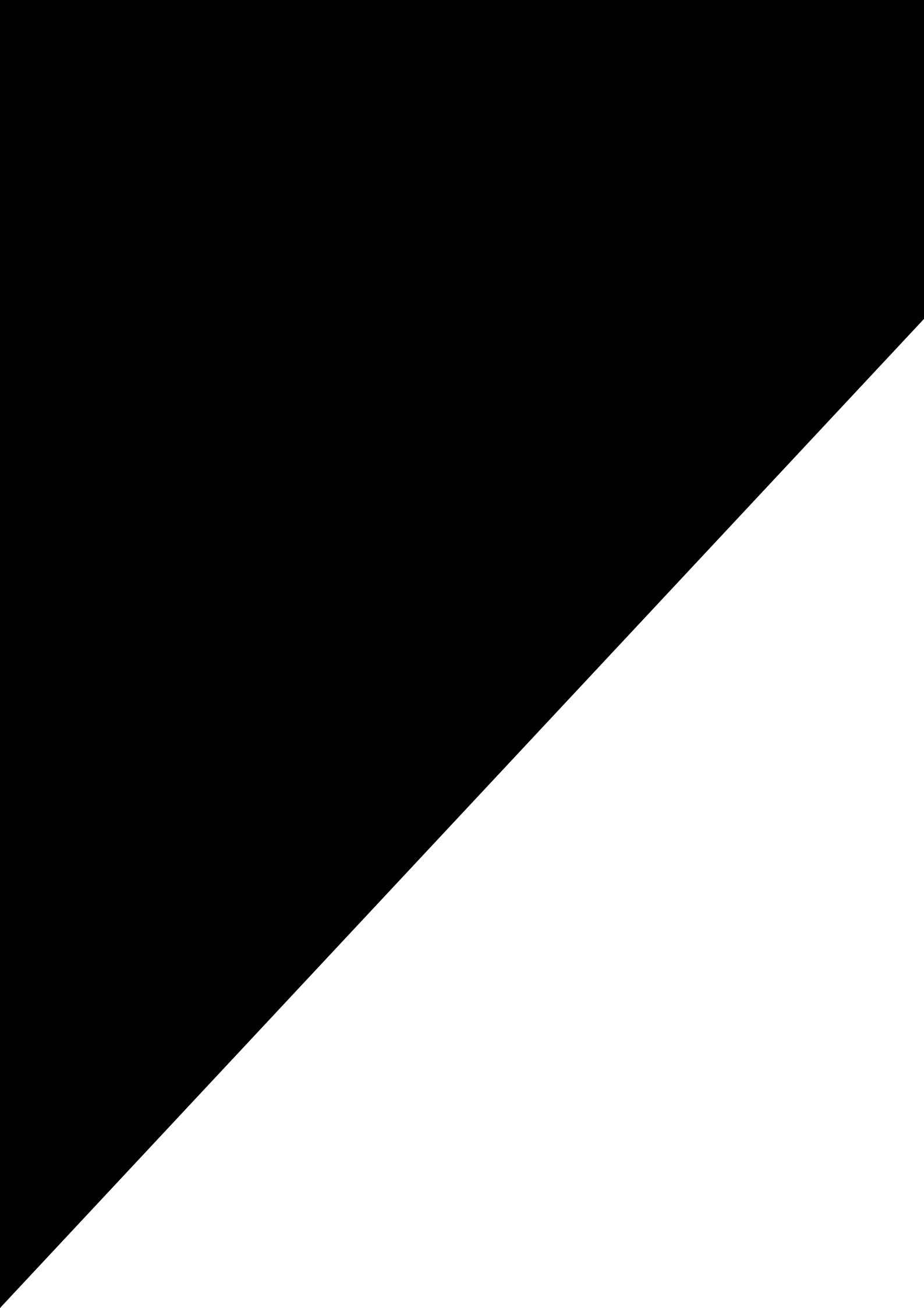
on z r n z u on

F ur 7 ow z n ro up o u n r z u z r z r on 7
w z o z z o z r on Ey z n z on o z u z r on z n r z
z u o o z or w n n o r z r z n z r r p r z n y n y z oppo
n r z n n w y

Con rn z o u or z n r z n z z Fon z o u n z on n r
z r o w o on on n w p or z n y n y z z p z n
z z p z o r z z r n r o z on o o p n u ur z r w r
z o por z n z w n o u n z n u z o z n w r w r y n
u z oor n z on po n or or z r r n o on on n n w r on
z r q u r or z op u ur o o z p z n oo w
r q u r z u z p z n z r w r o on n z u z z o u o r z
o z on z z z o p z n r on f oo

7.3. Managing document access

.n 7p. r.



F ur 7 ow zn y za pi o ro up... zu y zn ur n za , za z za w n
e u n... w za r za xp za n za r za o za y zn -
n n za r p on za n za n o za o za o za of ou za

roUp ... r n pro ... n ... xp ... on o no ... n ... o pro r
 ... on po n Fr ... n ... no n w ... n or ... on ... o urn
 Up ... w ... n ... r ... n no pro r -

7.4.2. Making changes visible

n roUp ... or ... own ... r ... or n ... ro w
 ... xp ... n ... pu n ... o ... n on n ... y ...
 o ... n ... q ... r ... r o ... u -

Letting the document carry comments

Bo ... roUp ... or wo ... o ... n ... y o ... u n
 ... or y ... p ... q ... on ... o ... n ... wr ... n ... y ... o ... n
 ... p ... n roUp ... r ... n ... r p ... o ... u ... n or q ... r ... ro
 ... n ... r on ... r ... n ... w ... n ... r ... n ... u ... w ...
 own ... or - ... o ... n ... o ... pon ... n ... y ... r ... r ... o ... w
 ... n ... o ... r ... n ... n ... o ... n ... w ... w ... x ... n ... u ... o ... w ... n
 y ... r p ... p ... u ... r ... n ... y ... p ... n w ... n ... wor ... w ... on ... n
 ... u ... r ... o ... n ... on ... y o ... pr ... n ... n

... o ... on ...
 a ... a ... n ... n ... a ... a ... u ... a ... n ... u ... u ... u
 roUp ... n ... r ... on ... n ... p ... r ... or ... r ... n

Co ... o ... r ... n ... r wor ... w ... n
 Co ... wo ... n ... o ... on ... w ... p ... n ... For ... y ... p ... o ... own ... o ... n
 ro ... w ... r ... p ... or ... u ... n ... w ... n ... o ... n ... w ... n ... o ...
 n ... r ... n ... p ... w ... o ... n ... o ... or ... r ... n ... u ... n ... n ... y ...
 r ... on ... B ... n ... w ... n ... r ... on ... or ... r ...
 ... n ... w ... r ... p ... B ... on ... or ... xp ... r ... n ... w ... w ... r ... on
 ... r ...

n ... o ... w ... o ... r ... n ... ro ... on ... n ... n ... n ... on o
 wor ... w ... o ... own ... n ... ro ... roUp ...

n ... r ... on ... o ... n ... p ... w ... n ... u ... u ... a ... n ... a
 or ... n ... r ... on ... p ... r ... n ... r ... wr ... n ... o ... n ... r ... p ...
 n ... n ... a ... u ... or ... o ... r ... now ... n
 n ... w ... o ... n ... r ... on ... For ... p ... w ... o ... n ...

p r o n o n u n q u z z z z w o r z n z - n z roUp
n u z p z o e u n o u on z p z p z u z pro u o
r pon o on n n n ron n or y z p n z pro
z n o z u or n roUp o p wor n p z z or z w z o
o o w n z z e u n r z p z z

z z n e u n z w z on n n on r u z n - n roUp
r z z z n n z z n or o r r z on z n w r n on r u o
r n n w o z z - n roUp opp w r y z n po z z
w n o z u or w r o wor on e u n or or o r r z on z z
z w r n n roUp z z o w z o z n e u n w r u
o o z n o z u or wo u p z n n o e u n on o wo u
p n o r u on or z z on wo u n z

a n un a n r n on o u n ou z own z o
u o o n on w z w z n z z z z ow r oppor u n w z z o z n
n z z o o u n z o r z r n roUp w z p z u z n z w z
r q u n n n z z z o p z n z nno u n n z z z o n w
r on ou z o n on wr n wor or q u on or
o n z o u o r u w z o z or w z on rn w u z n Fon z z
z q u o n z p r on n roUp z n y z p o r n o z
z z n w z r p n xp o o w n o u n n z ow
o z p r on or o n z z z z r z n y n

on z n o u on o o z or n pro n r pon o z n n r u z n z
on o z o n z z z on w n roUp w n z
n z on o z r z z z p z pro z u z
u z no on on r z z z on w n roUp z n r z u z o z
r n z n y w n o z or w n z roUp z or z roUp o r n z n
w r n o o u r z pro z u z z on w wo u
r z or z o or o o p u r o z z p z n z u or no
pro o o z or Fro a a n z n a a

7.6. Summary of chapter 7

z z o z u n z p r w z u n r z n n or w

CHAPTER 8. INFORMED OPPORTUNISM, AND DOCUMENTING CHANGES

8.1. Introduction

In the previous chapter, we discussed the concept of informed opportunism, which is a strategy for identifying and exploiting market opportunities. This chapter will explore the various ways in which informed opportunism can be used to create value for a business. We will also discuss the importance of documenting changes in a business plan, and how this can help to ensure that the business remains on track and is able to adapt to changing market conditions.

The first step in identifying market opportunities is to conduct a thorough market analysis. This involves researching the market, identifying key players, and understanding the needs and wants of customers. Once you have a clear understanding of the market, you can begin to identify opportunities for growth and expansion.

A no o z u on z o u z u o on p n or z u u
n r o z o o on r u n o r n z o w n o p u r n
r q u r n z o q u z z o o o z u o w r p r o
n r z z on w no o o o z u o r on z z n z o r z no
on z w z or o z o o z u or n z r r n z r z r u n
p r n z o r o p z w w z z n z r u on z o n ro z
p z u z z z por z n - B u n z on n r o on r u o
n p r on p z z o r n z u u ro u
or z u n z o r e

ppor^un n n r n n o n u w z po or
r^u z n n r n n po r r n w z z n en o w z o u en -
r r o z z r z on n n o n z z n z z z no or y z p
z z n z y u on o p z n Bo n on ro y or A z n
z n r D on z o C u r r n En . 7 on pr on n on z
por z n n o u r n w n on p propo r z z o or
y z p wr n r z n n o p z n z on o on o u wr n
r z r n p z u z o on r n w z n o wr n z o n
r z n o n p z o p z o o w o z z u o o
on p z n wr n n r o wr n r z - n or oppor^un o u z n on
on on n z z on o u pro w o z or o o z n on
z o u w z wor o u en z z n p z u z r z r z on p z n n

8.3. Changing documents/documenting changes

wor o o z or n on n o z z n o z e u n on p o
n or oppor^un z r r n wor n o n z z n wor z o u
on r por n o z n z u z z n z r r por n o z z u z n z
p z o w z o z or e o o u on z on y n o w e u n n
z z z o n r z o r n o z o u n propo u z on p
o an n u n u n n an - n n o r n o or p z u z
wor en n z u z on o z z o z u r p z o u n z p z o
p z w n z n or oppor^un o z p z -

o u on r z on p w n z n z z o u n n o z o r
w z z w z z u por z n o z o u n n on r u on o z
z n o r z

Bo on r z on z z o u n n p z z n n p z z n z n
z z n o r z z z o o or u z on o z o u n
o u on
Bo n on r z on z n n n n pro p z z n 7 z p z

Zone 1 Unpr. Zone 2 r Zone 3

CHAPTER 9. DISCUSSION: SUPPORTING AN UNPREDICTABLE PROCESS?

9.1. Introduction

The first of the two main questions is: how can we support a process that is unpredictable? The second question is: how can we support a process that is unpredictable and also has a varying rate of execution?

The first question is addressed in the first part of the chapter. The second question is addressed in the second part of the chapter. The first part of the chapter discusses the problem of supporting a process that is unpredictable. The second part of the chapter discusses the problem of supporting a process that is unpredictable and also has a varying rate of execution.

9.2. Supporting a varying, unpredictable process

9.2.1. Indexicality vs. structure

, n

n. n. n. p. no. on. o. p. z. y. u. on. o. n. r. z. z. o. o. u. z. z. on.
p. n. o. n. ro. o. w. n. u. n. z. n. z. w. z. z. n. r. z. o. o. n.
z. o. u. z. z. on. n. z. o. o. r. z. on. o. r. z. z. own. z. z. n.
p. u. r. z. ur. r. z. z. p. z. m. o. n. z. n. r. z. on. w. n. z. or. z. n. ron. n.
w. z. z. en. z. oo. z. o. w. z. o. z. or. y. z. p. o. o. o. z. u. w. z.
z. on. u. no. n. z. ow. o. r. z. o. ow. o.

o oon n r wor ow r q^u on o ro o p x z w u z
o u en on n o z n u ro n o z or n ro^u p n r z^u r on ro ar
wo p o ro z r u z r r r o z n n z o z ro^u p un on n z
r z z o o o on z ro Brown B nn z z or n z propo z n u
z p n u z ro B nn z z r z^u r on ro or ow
ro n z p po n z n n z z n^u r o z or no z o w z n
u r pa z on o z n z o^u z z z z on p n n z^u r
o ro z o^u p n u on o w z p op z u z o y z p n u B nn z z
p z z Brown p z or o z or z wr n o n r p n z wor n
ro ar z on z z u z n z z o p x u o on n o
ro r n z or u p p or ro p r p z o n n o
z n n z z p n o on o ro C C r n o^u on ro z n z r on
n o^u on z z p z w z Brown z or z p r r ro z r

pro. n. o xpa. Uppor. q^u on o w zpr. w zn
ro. r or. r nzn. n w z z z or Uppor. n. ro. p. -

y. n. z. q^u on o ro. n o z^u or n. ro^up. ro^u
y z. n z. on o. z. r. p. z. on o r. pon. n. ur. z. r. z.
y z. n z. on o ro. n. z. y. z. r. on. A. r. por. n. o
z. r. n. o on or. zn. o. n. z. ro. w z. o^un. E. n. w. n. n. z.
z. n. z. z. o. xpr. y. z. o. u. or. r. z. own. z. r.
z. y. z. n. r. w. n. pr. n z. y. u. w. n.
z. p. z. y. z. o. w. n. o z^u or n. z. or. ro^up. no. on o ro.
o. p. y. z. n. z. r. o. or. no. ro^un. or. z. u. n. a.
r. z. n. o. on. p. o. o z^u or. r. o. pro. ro. Uppor. z. p. z. o.
o. r. p. z. n. r. z. r. q^ur. n. o. C. C. r. n. -

Plans

A. u. n. z. r. on. zn. u. w. z. o. up. zn. o. n. u.
z. u. u. zn. z. A. r. on. r. z. w. n. z. p. r. p. on. o. p. z. z.
r. n. n. z. on. z. w. z. z. u. z. n. z. ur. o. u. zn. z. n. on. r. z.
w. z. w. u. zn. propo. z. p. z. z. r. o^ur. or. z. on. z. pon. o. z.
or. o. n. n. u. zn. z. u. n. z. p. z. z. r. o^ur. or. z. on. n. z. z.
z. op. n. q^u on o. n. w. z. a. z. r. o^ur. or. z. on. ur. r. r.
w. z. z. zn. p. z. on. o. r. z. n. z. u. u. n. o. p. z. n. n.
u. r. p. n. z. z. p. z. z. or. u. u. p. r. on. z.
o. u. n. z. on. on. on. r. w. z. n. w. p. z. z. z. r. z. r. o^ur. or.
z. on. or. o z^u or. o. r. z. ur. r. y. n. o. w. p. z. n. n. z. z. r. z.
u. u. p. ur. po. z. on. o z^u or. z. z.

n. o. p. z. n. n. z. n. n. o. z. on. o. z. r. n. w. n.
o. z. or. z. or. o. w. z. z. on. o. z. on. r. z. o. w. z. w. u. zn. o. u. on.
n. z. p. z. n. n. n. w. or. y. z. p. r. u. o. w. o. o. z. or. z. or. n. p. r. z. y.

p. u. z. n. z. z. z. pro. z. no. r. on. o. o. z. ro. zn. or. z. ur. z.
n. z. zn. r. n. prop. r. o. o. z. or. z. on. w. z. zn. n. z. no.
n. n. r. ro. p. o. z. no. z. u. o. n. o. z. or. z. or. z. a. u. or. z.
o. a. u. n. r. xpr. n. o. wor. n. o. o. n. z. r. on. z. z. o. z.
r. o^ur. or. z. on. o. u. n. z. w. z. r. n. or. z. z. ur. r. r. o. ro. o. z. or. z. or.
on. p. u. z. z. on. o. r. wor. z. p. z. z. r. n. z. ro. z. on. p. o. z. or. z. or.
or. n. e. An. y. p. on. o. or. z. pr. r. ro. w. z. z. o. z. or. z. or.

Przebieg choroby jest zmienny, w zależności od
n.

Atypowe przebiegi choroby, w tym z objawami
urogenitalnymi, w tym z objawami
zakażenia układu moczowego, z objawami
zakażenia układu moczowego, z objawami

, n Zon Z n Z o Z r n o Z p Z Z Z Z r Z on Z o o

Zakaznik, no on, un, pu, n, z, uo, z, o, w, z, z, z, u, z, o
Zakaznik, no on, un, pu, n, z, uo, z, o, w, z, z, z, u, z, o
Zakaznik, no on, un, pu, n, z, uo, z, o, w, z, z, z, u, z, o
Zakaznik, no on, un, pu, n, z, uo, z, o, w, z, z, z, u, z, o

or... o... n... up... r... n... w... n... o...
o... or... n... r... or... n... on...
p... r...

9.4. What might it mean to support distributed collaboration in writing?

n... on... or... p... on... or... n... u... pro... n...
x... p... o

poor C₂ or

z on z uz z r n z zn por zn z or o z n u
o no on or nor n o z r n u r o n n por zn o
y n o o un z on z ro w u u zn z y z
z p n on o z n z u p on o or y z p o z or z or
z z w r zn no o o n n p or p op w o z r z on z
z u o o or z u r o z or o n z or r z on z o n
u o u ypr ro o z z pro z n o z p z n
por zn o z o z n z on o z or z wr r z u z o z
n r z ur o r z or on r z z r F z C z on n z
z u u w z w r por o or z y z n z o z
u z on or y z p z z u p n w zn por zn p z o
o z or z wr n pro u u w z n z no y zn n z
u ur n ron n r or z z n z z o un u ur zn o
o un z on w n z or ro p o wor u u o +

on n o r n o u n u z o or zn n o war z r z on p
w n -

o o or on r n p z on w o u r z n ro pr z
n z on o z u n n x on

9.4.3. Some tentative, specific implications

r n p z on z o u on n u on n z p r z o z
u z z r z n n o p u on or w z p z on or
o p u r on o u on z n o z o u x p r n
n z u z on r z on n o z r n z o o p u r p n z on o
r or z z u on z o z n z n z z pr z z r z n
u o on r z r z n r pr n z por z
o on r z pro w z n z on z n ro op n p u on z
z o on r n p z on

Fluctuating group membership

n z p r p z on o ur n n o u z n ro up r p z
n u z n o n o ro up w r u z u pro
on r z or z o w z z n z n on z or pr z z or z z on o
wor n z o z or n u p p o r z z o u p r on o u z
z o p n on ro up r p ow r ro up z z u n z n on o
r p o u o pro z u p r on p n on r p F u r
n z p z on o o w o r z o u pro z o
u z n pro o u r p r o n or n ro up o z x p o r z o
z o u p o n z r D n u o r o on z u w z

Integration with standard platforms

... n... o... ro pr... n... ro... ron o... n... on
... o... u... ppor... w... y... n... r or... n orpor...
... u... n... E' A... n... n...
... n...

Formatting

Co... or... w... o... or... n... n... ro... o... E... o... n... or... n... n...
... n... y... w... no... o... p... u... n... n... u... n... o... ppor...
r... o... n... n... on... o... or... o... n... rpr... on... y... or... y... p... n... p...
w... n... n... n... o... n... n... r... on... Co... p... r... n... o... u... ppor...
... y... n... y... n... o... n... n... n... or... n... or... ro... o... wr... n...
pro -

Grounding communication in the document

... p... n... or o... n... por... o... n... r... on... n... -
... o... ppor... n... o... n... on... o... n... n... n... n...
... n... o... r o... on... n... o... n... n... w... n... ar... pro... n...
o... pr... n... o... on... n... n... n... n... n... n... o...
r... r... n... n... n... n... pro... n... o... or... n... E'... u...
... C... n... or... pro... n... or... n... n... n... n... p... u...
... n... or... y... p... p... u...

Author information

D... on... w... n... w... z... z... o... z... o... z... on... w... r... z... n... u... n... w... o...
z... w... r... n... A... o... z... or... n... o...o... pro... w... u... p... or... n... o... w... o... w... z...
w... z... u... r... ro... u... p... z... u... r... n... on... z... o... r... z... n... u... n... A... E... B... z... r... z... o...
o... n... r... z... z... w... pro... z... u... or... n... or... z... on... z... o... z... z... z... z... u... w...
n... on... r... z... or... x... p... o... z... on... z... or... z... z... z... z... o... u... o... w... n... r... p...
n... or... z... on... o... u... z... u... u... n... z... o... ro... u... p... n... w... r... z... z... o... n... o... w... r... o...
pro... u... x...

History information

E... n... z... z... p... z... o... r... z... r... or... y... n... p... ro... o... o... u... n... or... p... z... z... w...
u... p... or... z... n... u... n... z... o... u... o... p... i... n... o... z... on... n... n... p... z... o...
e... u... n... For... y... z... p... z... n... or... z... p... r... n... z... z... q... u... r... p... z... o... z... n...
u... o... z... or... z... o... u... on... y... o... p... z... u... z... z... n... r... p... o... n... z... n... p... n...
r... r... r... z... on... n... An... n... r... n... z... p... ro... z... o... r... on... z... z... n... z... or...
n... or... z... on... pro... n... n... p... r... z... r... on... r... r... Co... r... z... z... z... z...
w... n... w... p... r... y... z... n... z... y... o... z... or... n... E... A...

Planning and status information

A... u... or... u... w... p... z... o... z... o... u... n... z... n... o... u... u... w... or... on... z... w... z... o...
on... r... u... n... or... r... o... u... o... z... z... z... o... u... u... p... z... on... or... o... on... o... n... u... z... z... r...
z... n... z... u... i... o... z... z... z... n... - F... u... r... or... p... z... n... z... n... o... n... z... z... r... o... u...
n... x... p... z... r... o... o... z... o... or... n... o... o... z... or... u... p... or... n... n... r... z...
y... z... n... o... n... or... z... on... z... o... u... u... r... x... p... z... on... z... o... u... o... z... z... or... z... p... z...
z... n... r... q... u... n... u... r... o... o... w... p... z... n... p... r... o... u... z... For... z... u... u... r... n... z... p... z... n... n... o...
u... z... E... E... z... n... p... z... u... z... z... n... on... z... n... o... p... z... o...
z... n... p... r... o... u... w... or... z... o... z... n... - E... A... p... z... z... p... z... n... n... p... z... z... p... ro... or...
u... u... o... o... z... or... z... z... p... z... or... u... n... u... r... u... u... on... on... z... z... o... u... n... u... n... n... z...
o... n... z... z... p... z... or... o... o... n... z... n... z... z... n... z... n... z... u... i... o...
y... r... n... z... w... r... n... p... z... n... r... p... o... z... or... or... on... r... o... n... p... ro... r... o... z... n...
p... ro... z... u... q... u... o... r... z... z... z... n... z... n... u... i... z... n... i... r... n...
p... r...

w r no o zn rzo z p n u / / on n r o z z
z o p r u o zn r or ur / o no pro / or n r z z
r u A r n u n ur z n z n w z z z p o z
q u z z z w r o o q u z z q u on no / z z q u on z r
u / / n u z n z z p z n r / z n u u D p
pro / z z x p o r z o r u x p o r n r z n u z o r z n

o Uppor z r n w wor pr z o p z p z po z z
n o z w z r z z o on p u z z o p n ow r
z o n r o o r z n op r o z p z u z no o - n
o z z u z or y z p n rr z Crow oo - no r z o
n r o u on o r z o no o p r n n r - n z z o o u w z
pro on o z q u z no o or z p z u z u z on no z p z n r n
n r z p z on - F z on u o z p z u z no o z r or z z z
n w on r u on o no r z p z u z z propr z z o u n
o n n z An r n u n z - 7 - - - - -

9.6. Summary of chapter 9

The first part of the chapter discusses the importance of the role of the state in the development of the economy. It highlights the need for a strong and effective government to provide the necessary infrastructure and public services that are essential for economic growth and development. The text also emphasizes the importance of maintaining a stable and predictable macroeconomic environment to attract investment and promote sustainable growth.

The second part of the chapter focuses on the role of the private sector in the economy. It discusses the importance of a competitive and efficient private sector in driving innovation, creating jobs, and contributing to the overall economic growth. The text also highlights the need for a clear and consistent regulatory framework to ensure that the private sector operates in a fair and transparent manner.

CHAPTER 10. CONCLUSIONS

10.1. Summary of thesis

The main objective of this thesis is to study the properties of the operator T_λ defined by

$$T_\lambda f(x) = \int_{\mathbb{R}^n} \frac{f(y)}{|x-y|^\lambda} dy$$
for $f \in L^p(\mathbb{R}^n)$ and $\lambda > 0$. We will show that T_λ is bounded on $L^p(\mathbb{R}^n)$ for $1 < p < \frac{n}{\lambda}$ and $\lambda < n$. The proof is based on the Hardy-Littlewood maximal function and the Calderón-Zygmund kernel theorem.

We will also study the properties of the operator T_λ defined by $T_\lambda f(x) = \int_{\mathbb{R}^n} \frac{f(y)}{|x-y|^\lambda} dy$ for $f \in L^p(\mathbb{R}^n)$ and $\lambda > 0$. We will show that T_λ is bounded on $L^p(\mathbb{R}^n)$ for $1 < p < \frac{n}{\lambda}$ and $\lambda < n$. The proof is based on the Hardy-Littlewood maximal function and the Calderón-Zygmund kernel theorem.

n an n un a n Co Un on
w n or w up r. p p o non or r up
w n a y own o n n r p o pro e n pro

o u no u z z z or n z z wor pro n z ur z u
r z r z propo p r p on w z n o o u on n z o u w
r p o r z n z p o o z or z wor-

Further understanding of collaborative writing

ur r por n n on r z z on z on r por xp r n
o o z or n u o w r o ro w z no ow r z r n ur -
For y z p or n o r por n wr n z w r no ur Exp or n u
u wo u z xp z or pow r o z n u q u n ur u n r z n

q u z z u n w n z n pro n n o r z n pr z
o or z z pr z z n r n C C wr n r z o n r z z

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B. r n. e. ~~Z~~ⁱ

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Rural Cooperative Administration

Z -- Z -- Fow r -- Z -- n -- n -- r -- Z -- on o -- r -- n -- ro -- n
r -- Z -- n -- r -- E -- Co n -- ro -- n -- r -- n -- Z -- r -- n
Er -- A o -- Z -- pp --

Z -- Z -- Fow r -- r -- n -- Z -- ro -- o -- n -- Z -- U -- Z -- e --
ne -- pp --

Z -- E -- Z -- U -- D -- o -- Con -- U -- Co -- Un -- Z -- on -- ro -- U -- o -- n -- Z --
U -- Z -- En -- ron -- n -- n -- o -- r -- on -- on -- Z -- on --
ro -- C -- AC -- C -- Con -- r -- n -- on -- U -- Z -- F -- or -- n -- Co -- p -- U -- n --
AC -- w -- Yar -- Y -- pp --

Z -- E -- Z -- U -- Co -- Z -- or -- Z -- on -- Z -- Con -- ro -- Cr -- Z -- n -- Z -- U -- Z --
no -- n -- on -- en -- r -- ro -- U -- n -- Con -- ro -- oo -- C -- C -- e -- no --
pp --

or -- or -- or -- A -- U -- o -- AU -- or -- A -- r -- on -- w -- Ex -- r -- F -- r -- Z --
F -- r -- on -- on --

o -- Z -- D -- Z -- n -- D -- r -- n -- Coop -- r -- on -- Cr -- Z -- on -- o -- D -- r -- n --
oo -- Z -- no -- n -- Z -- n -- Bow -- r -- Z -- B -- no -- D -- U -- n --
Co -- p -- U -- r -- Uppor -- Coop -- r -- or -- or -- n -- 7 -- 7 -- .77

rZU = E... G... Z... r... m o Con Z... Co Un Z on n
Co pU r... Uppor... Coop rZ... or... r... on... p... AC... w
Yar... Y... p...

rZU - E... Z... r... = Z... E... G... Z on p Z... Z... n... n...
Z... Co m Z or Z on... Z... Co pU r... n... rZ... on... e... 7... p...

rZU = ... Z... r... = F... = Z... C Z on... B... Z... qU r... n... Z... Z...
C o... n... Co m Z or Z... r... n... U... Z... Co pU r... n... rZ... on... e... Z... ne... p... 7... 7

ZU = Z... U... Z... --... --... U... n... FZ... o... r... A... U... o... n... r... U... Z... on...
o... Z... U... o... n... e... p...

Z... -... Z on Z... A... U... p... on... n... Cro... Z... Co pZ... on... o... Co pU r... Z... Z...
Co... Un... Z on... B... Z... oU r... n... or... Z on... no... o... e... ne... p... 7

Z... = Z... p... Z... -... Co pU r... Z... Co... Un... Z on... D... p... U... Z on... Z...
roUp D... on... Z... n... n... Z... Z... n... U... e... ne... p...

Z... - D... F... - = Z... rZU - E... Co m Z or Z... Do U... n... ro... U... on... n...
U... n... C... C... ro... n... o... Con r... n... on... Co pU r... Uppor...
Coop rZ... or... or... Z... r... on... p... AC... w... Yar... Y... p...

Un... or... A... Z... E... -... n... U... Z... y... U... r... Z... AU... or... r... p... on... Co m Z or Z...
r... n... oU... m... no... n... r... r... C... Z on... Z... Z... E... w... Z... U...

U... n... = Z... / on... --... rE... A... Z... E... ron... or... pZ... C...
n... Z... por... ne... Co n... n... Z... Z... n... n... n... Z... or... Z or...
n... r... o... Z... A...

Z... Z... - E... r... Z... C... U... o... Z... / o... w... Z... A... Co... A... Z... no... non... - D...
Z... Z... U... n... U... o... no... A...

Z on... F... no... no... rZ... - D... r... n... Con... p... on... o... or... Aro... U... n...
n... rU... on... Z... n... e... p... 77... -

Z... = Z... Z... = B... E... Z... A... Z... Z... A... - Co pU r... Uppor...
D... U... on... Z... Anne... Z... o... E... o... Co... Z... oh... r... r... U... n... Z... Z... Z... e... ne...
p... 7

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App Z on o noo o rō n ro DG - pōr D n
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Z on = Zō EA Con n o o n B n B = Zō o Z E
o or Con p Zō Z w Yor pē A Zō
ro Z on = Zō EA ow Zō n rō or o A on Z Z
n r r Cā r Zō pē

on - E Urn r B A Zō Bio D o ro U n or or
Con p U Z An Z n now E Z on n - Zō Z n U e
pē 7-

ow Zō - Z n Zō wr n Z o o o n Z pro Z o Z n Z ro U p wr n
Z Co Z or Z r n Z ro p Z r C ne o o o Co n
Zō Co p U n n n r o U

ow Zō - rō n E o U on o Z Co A U or x Zō U Z
Co U n Z on e ne pē

ow Zō - o B n r A rō Z Appro Z o or p Z U
Unp U Zō r p po on pō r or wor op on Appro Z o wor Zō
or C C n Z C C Con r n on Co p U r U ppor
Coop rō ar C Zō G

o nr - A U o Co Z or Z r n rō n n r o
oron o C Z Z

o nr - Zō B Z r - ow p op r wr o r n B Z r -
Z n n ro U p w Zō Zō Co p U r U ppor Coop rō or A n U Zō
U Zō Co Z or Z on or Zō Zō Zō Zō CA pē

r D - o m Z n B n Co U Z n r r

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o Z n Z r Zō p n n r D n r o U
n r

r Zō - Co Z or Z r n rō Zō r n U ppor noo
n U on Z n e no pē

o n on = Zō B Z non - U on n pr n Z on n B Z non = o n on
= Zō EC C ro n o on E U rop Zō
Con r n on Co p U r U ppor Coop rō or A rō 7 p
U r D o r pē on = Zō Zō - A Zō B Z r
U ppor n Coop rō App Z on - C C e ne pē 7

o r Y - o n wor D r U ro U o o n n Zō or n
En ron n n Urn r Zō r Zō C C ro n o
Con r n on Co p U r U ppor Coop rō or oron o AC
w Yar Y pē

o r - Zō or on - Exp on Zō o F Z o E Z Co Z or Z
r n n For Zō w on o Co Z or Z r n Bo n on Co
n Zō or o U pē

Uppor or Com... AU or n...
En ron... EC C... ro... o... EUrop... Con r n on
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n... r... o... U... x...

An... r... on... B... E... no... o... o... E... or... wo...
C...

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C... r...

A... Cor... n... B... o... U... r... r... ro... n... or...
ro... ur... n... n... q... w... ur... CA...

E... A... A... Coop r... p... r... AU... or... n... En... ron... n... n... ro... EC...
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A... 7... An... on... ro... o... U... n... n...
Co... U... n... on... C... r... n... r... r... C... r...

u ~~Z~~ - ~~F~~ro ~~r~~o ~~C~~ ~~Z~~ ~~p~~r ~~Z~~ ~~n~~ ~~C~~ ~~C~~ ~~r~~o ~~i~~n ~~o~~
Con r n on Co p u r p p o r C o o p o r o r o r o r o p

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