

INDOMIE FACEBOOK PAGE DYNAMICS REPORT

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MULTIPRO PRIVATE LIMITED is a sales and marketing company concerned with noodle, kellogs, pasta and chinchin products. As part of their digital marketing approach, they host a Facebook page to engage their customers and also target consumers. This seeks to analyse their data generated on their page from January 2017 to December 2017.

```
#####  
#####Packages Required  
#####  
library("Rfacebook")  
library("stringr")  
library("reshape2")  
library("ggplot2")  
library("scales")  
#library("cowplot")  
#####  
####Loading Scrapped Data  
load("Yummie.RData")  
load("Indomie_Ghana.RData")
```

1. What is the trend of likes, comments and shares for Indomie_Ghana?

```

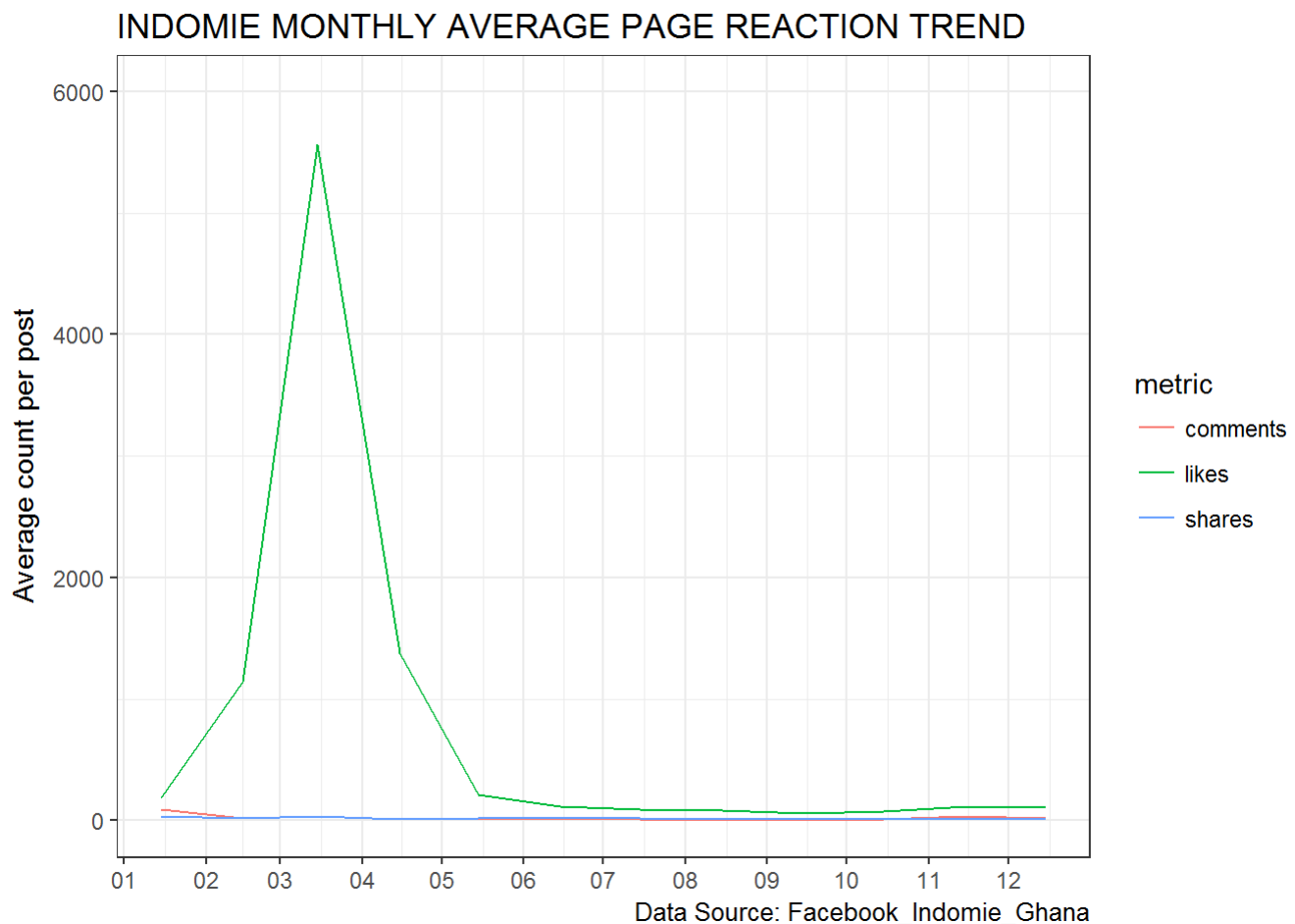
format.facebook.date<-function(datestring){
  date<-as.POSIXct(datestring,format="%Y-%m-%dT%H:%M:%S+0000",tz="GMT")
}

aggregate.metric<-function(metric){
  m<-aggregate(Indomie_Ghana[[paste0(metric,"_count")]],list(month=Indomie_Ghana$month),mean)
  m$month<-as.Date(paste0(m$month,"-15"))
  m$metric<-metric
  return(m)
}

Indomie_Ghana$datetime<-format.facebook.date(Indomie_Ghana$created_time)
Indomie_Ghana$month<-format(Indomie_Ghana$datetime,"%Y-%m")
df.List<-lapply(c("likes","comments","shares"),aggregate.metric)
df<-do.call(rbind,df.List)

t<-ggplot(df,aes(x=month,y=x,group=metric))+geom_line(aes(color=metric))+scale_x_date(date_breaks = "months",labels = date_format("%m"))+theme_bw()+theme(axis.title.x = element_blank())+labs(y = "Average count per post",title=("INDOMIE MONTHLY AVERAGE PAGE REACTION TREND"),caption="Data Source: Facebook_Indomie_Ghana")+ylim(0,6000)
t

```



2. What is the likes, comments and shares trend for Yummie?

```

format.facebook.date<-function(datestring){
  date<-as.POSIXct(datestring,format="%Y-%m-%dT%H:%M:%S+0000",tz="GMT")
}

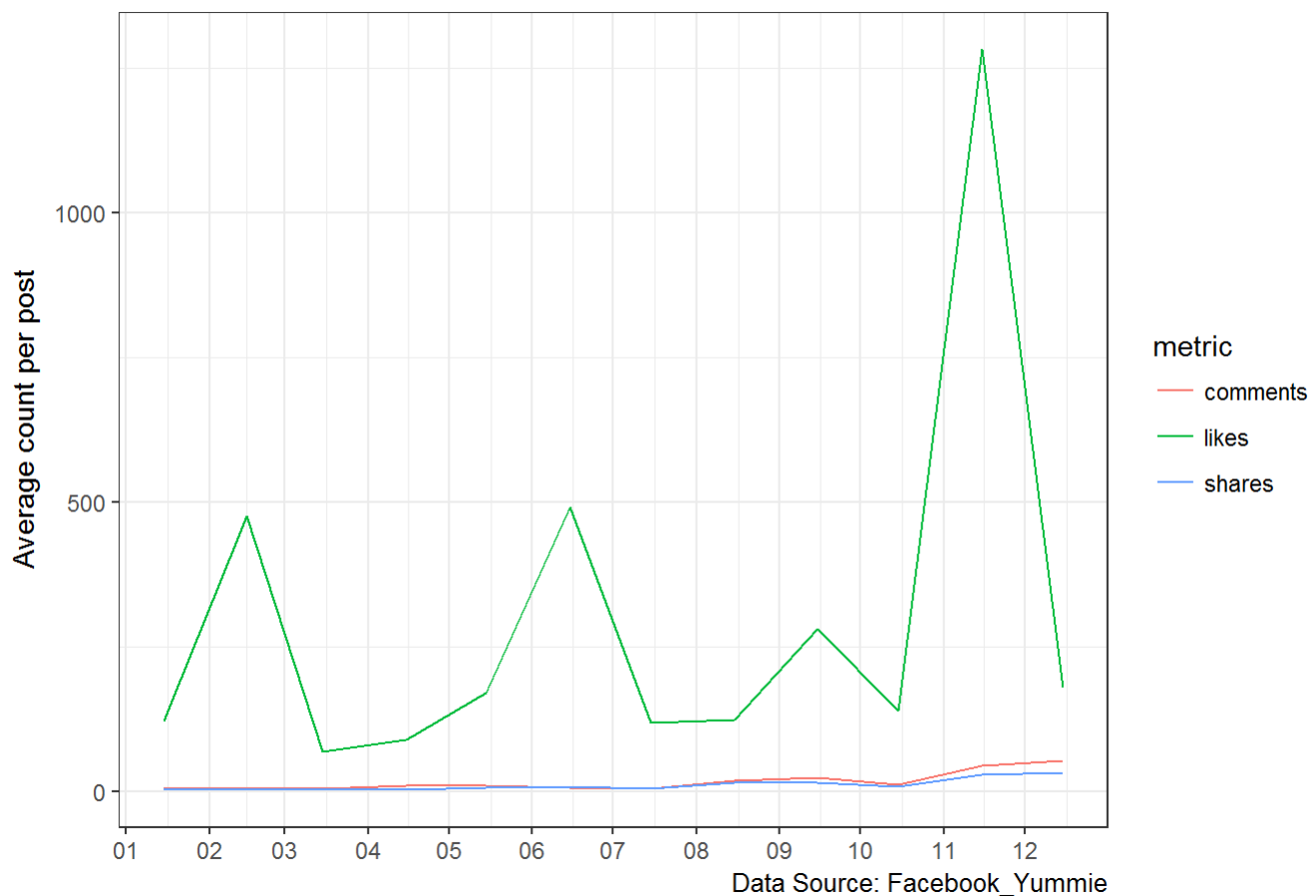
aggregate.metric<-function(metric){
  m<-aggregate(Yummie[[paste0(metric,"_count")]],list(month=Yummie$month),mean)
  m$month<-as.Date(paste0(m$month,"-15"))
  m$metric<-metric
  return(m)
}

Yummie$datetime<-format.facebook.date(Yummie$created_time)
Yummie$month<-format(Yummie$datetime,"%Y-%m")
df.List<-lapply(c("likes","comments","shares"),aggregate.metric)
df<-do.call(rbind,df.List)

n<-ggplot(df,aes(x=month,y=x,group=metric))+geom_line(aes(color=metric))+scale_x_date(date_breaks = "months",labels = date_format("%m"))+theme_bw()+theme(axis.title.x = element_blank())+labs(y="Average count per post",title=("YUMMIE MONTHLY AVERAGE PAGE REACTION TREND"),caption="Data Source: Facebook_Yummie")
n

```

YUMMIE MONTHLY AVERAGE PAGE REACTION TREND



```
#plot_grid(t,n, labels = "AUTO")
```

3. Which post generated maximum likes count?

```
Indomie_Ghana[which.max(Indomie_Ghana$likes_count),]
```

```
##           from_id    from_name
## 238 801602863197413 Indomie Ghana
##
##                                     message
## 238 Drum roll please! Our winners are:\n1st Opoku Tikofy Prince \n2nd So Lo Mon \n3rd Abu Bon
sra\n\nPlease send us a message via inbox to claim your prize! Congratulations to you all.
##           created_time  type
## 238 2017-04-03T10:01:11+0000 photo
##
##                               link
## 238 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1479270752097284/?type=3
##                               id
## 238 801602863197413_1479271482097211
##
##                                     story
## 238 Indomie Ghana added 4 new photos — with Dennis Opoku and 3 others.
##    likes_count comments_count shares_count      datetime    month
## 238      28766           93          41 2017-04-03 10:01:11 2017-04
```

4 .Which post generated maximum likes count greater than 10000?

```
which(Indomie_Ghana$likes_count>=10000)
```

```
## [1] 238 244 245 246 247
```

```
Indomie_Ghana[244,]
```

```

##          from_id      from_name
## 244 801602863197413 Indomie Ghana
##

      message
## 244 Today is the last day to partake in the #fortheloveofINDOMIE contest. All you need to do
is to send your secret recipe with an image to our inbox or to fortheloveofindomie@gmail.com, to
win cool prizes.
##          created_time  type
## 244 2017-03-22T09:52:54+0000 photo
##

      link
## 244 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1466396890051337/?type=3
##          id
## 244 801602863197413_1466396890051337
##          story
## 244 Indomie Ghana is with Maccamalla Dramaboi Popcaan YR and 3 others.
##    likes_count comments_count shares_count      datetime  month
## 244      15259           15          20 2017-03-22 09:52:54 2017-03

```

Indomie_Ghana[245,]

```

##          from_id      from_name
## 245 801602863197413 Indomie Ghana
##

      message
## 245 Be the person to take home any of these cool items. All you have to do is send in your #f
ortheloveofINDOMIE recipe with an image to our inbox or to fortheloveofindomie@gmail.com. T&Cs a
pply.
##          created_time  type
## 245 2017-03-20T16:52:08+0000 photo
##

      link
## 245 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1464467626910930/?type=3
##          id          story
## 245 801602863197413_1464467626910930 Indomie Ghana is with Sparrow Samuel.
##    likes_count comments_count shares_count      datetime  month
## 245      12958           33          22 2017-03-20 16:52:08 2017-03

```

Indomie_Ghana[246,]

```
##           from_id    from_name
## 246 801602863197413 Indomie Ghana
##
##                                     message
## 246 Have you sent in your recipes yet? Hurry before it gets too late! #fortheloveofINDOMIE
##           created_time  type
## 246 2017-03-19T12:00:00+0000 photo
##
##           link
## 246 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1461723807185312/?type=3
##           id story likes_count comments_count
## 246 801602863197413_1461723807185312 <NA>          17540           74
##      shares_count          datetime    month
## 246           27 2017-03-19 12:00:00 2017-03
```

```
Indomie_Ghana[247,]
```

```
##           from_id    from_name
## 247 801602863197413 Indomie Ghana
##
##                                     message
## 247 Our taste buds are salivating over some of the secret recipes shared. You too can be part
of the #fortheloveofINDOMIE contest. All you need to do is; send your recipes and images to our
inbox or fortheloveofIndomie@gmail.com
##           created_time  type
## 247 2017-03-17T12:00:39+0000 photo
##
##           link
## 247 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1461372227220470/?type=3
##           id story likes_count comments_count
## 247 801602863197413_1461372227220470 <NA>          17503           54
##      shares_count          datetime    month
## 247           29 2017-03-17 12:00:39 2017-03
```

5. Which post generated maximum comments count?

```
Indomie_Ghana[which.max(Indomie_Ghana$comments_count),]
```

```
##          from_id    from_name
## 298 801602863197413 Indomie Ghana
##

##                                     message
## 298 Love the Game? Join #IndomieAfconFie on GTV...GTV SPORT+\n\nPREDICT & WIN INDOMIE GOODIES/A
IRTIME\n\nSHARE & LIKE POST AS YOU PREDICT. ALSO REMEMBER PREDICTIONS ENDS AFTER KICK OFF.\n\nYOU CA
N ONLY PARTICIPATE BY JOINING OUR PAGE WITH A CLICK ON THE 'LIKE' BUTTON (Indomie Ghana)
##          created_time  type
## 298 2017-01-19T17:04:15+0000 photo
##

##          link
## 298 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1404277209596639/?type=3
##          id          story
## 298 801602863197413_1404277209596639 Indomie Ghana is at Indomie Ghana.
##    likes_count comments_count shares_count      datetime  month
## 298      1194      1147      416 2017-01-19 17:04:15 2017-01
```

6. Which post generated maximum shares count?

```
Indomie_Ghana[which.max(Indomie_Ghana$shares_count),]
```

```
##          from_id    from_name
## 298 801602863197413 Indomie Ghana
##

##                                     message
## 298 Love the Game? Join #IndomieAfconFie on GTV...GTV SPORT+\n\nPREDICT & WIN INDOMIE GOODIES/A
IRTIME\n\nSHARE & LIKE POST AS YOU PREDICT. ALSO REMEMBER PREDICTIONS ENDS AFTER KICK OFF.\n\nYOU CA
N ONLY PARTICIPATE BY JOINING OUR PAGE WITH A CLICK ON THE 'LIKE' BUTTON (Indomie Ghana)
##          created_time  type
## 298 2017-01-19T17:04:15+0000 photo
##

##          link
## 298 https://www.facebook.com/IndomieNoodlesGhana/photos/a.802190413138658.1073741827.80160286
3197413/1404277209596639/?type=3
##          id          story
## 298 801602863197413_1404277209596639 Indomie Ghana is at Indomie Ghana.
##    likes_count comments_count shares_count      datetime  month
## 298      1194      1147      416 2017-01-19 17:04:15 2017-01
```

7. What post by competitor generated many likes count?

```
Yummie[which.max(Yummie$likes_count),]
```

```
##           from_id from_name
## 24 1738956943020566   Yum-mie
##
##           message
## 24 As sons and daughters of the motherland, we ought to eat what we produce and hold our own
in high esteem. #ProudlyGhanaian
##           created_time type
## 24 2017-11-01T14:26:43+0000 photo
##
##           link
## 24 https://www.facebook.com/yummienoodles/photos/a.1748277302088530.1073741828.17389569430205
66/1930735353842723/?type=3
##           id story likes_count comments_count
## 24 1738956943020566_1930762840506641 <NA>          17888          44
## shares_count          datetime month
## 24          30 2017-11-01 14:26:43 2017-11
```

8. What post by competitor generated many comments count?

```
Yummie[which.max(Yummie$comments_count),]
```

```
##           from_id from_name
## 11 1738956943020566   Yum-mie
##
##           message
## 11 It's Premier League action today at Anfield as hosts Liverpool FC take on reigning champio
ns Chelsea Football Club. Predict the correct score, share the post, tag five (5) friends and wi
n free airtime. #YummieSharePredictandWin
##           created_time type
## 11 2017-11-25T07:27:54+0000 photo
##
##           link
## 11 https://www.facebook.com/yummienoodles/photos/a.1772400873009506.1073741829.17389569430205
66/1939823339600591/?type=3
##           id story likes_count comments_count
## 11 1738956943020566_1939823372933921 <NA>          529          233
## shares_count          datetime month
## 11          189 2017-11-25 07:27:54 2017-11
```

9. What post by competitor generated many shares count?

```
Yummie[which.max(Yummie$shares_count),]
```



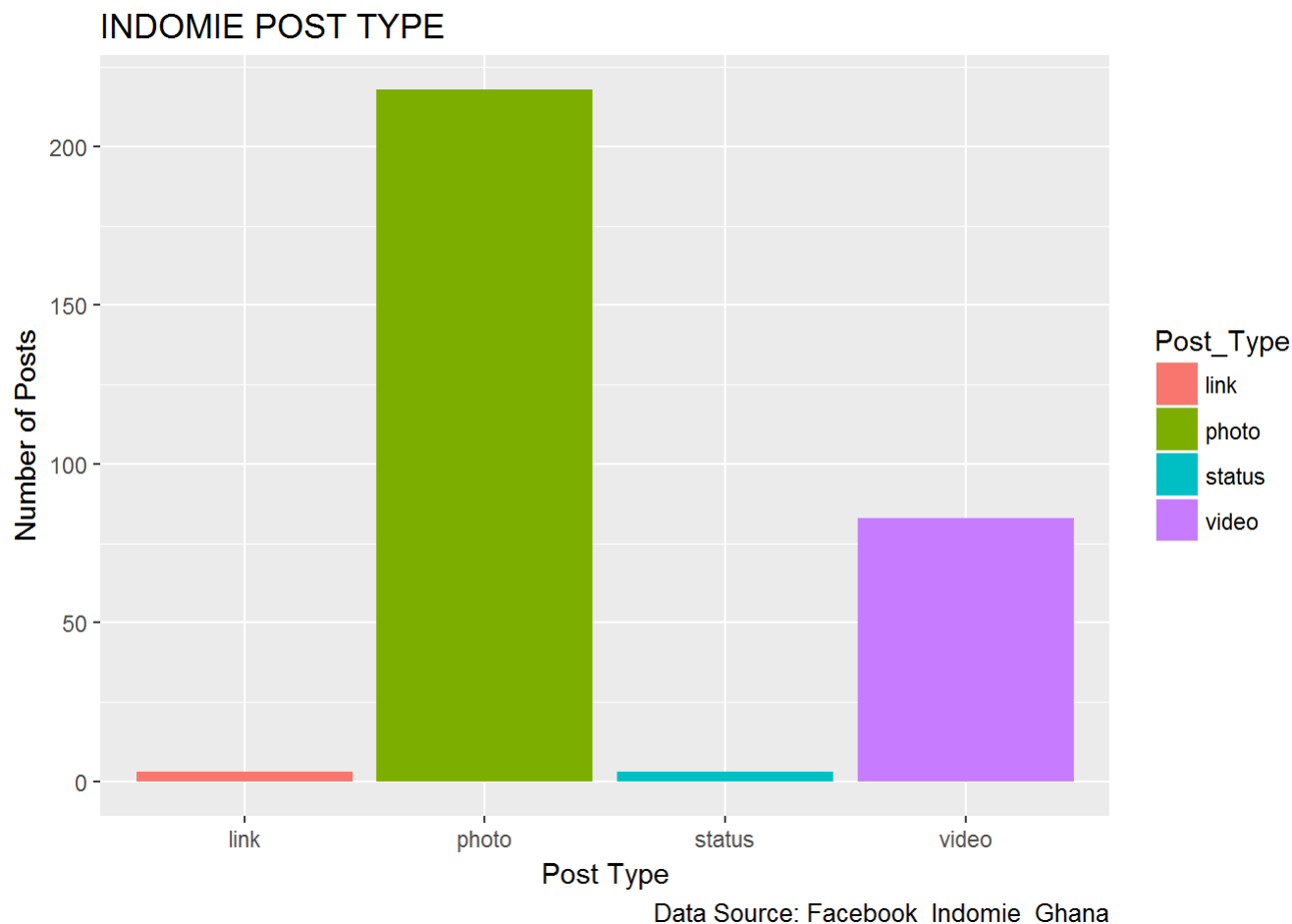
```
##          from_id from_name
## 11 1738956943020566   Yum-mie
##

##          message
## 11 It's Premier League action today at Anfield as hosts Liverpool FC take on reigning champions Chelsea Football Club. Predict the correct score, share the post, tag five (5) friends and win free airtime. #YummieSharePredictandWin
##          created_time type
## 11 2017-11-25T07:27:54+0000 photo
##

##          link
## 11 https://www.facebook.com/yummienoodles/photos/a.1772400873009506.1073741829.1738956943020566/1939823339600591/?type=3
##
##          id story likes_count comments_count
## 11 1738956943020566_1939823372933921 <NA>          529          233
## shares_count          datetime month
## 11          189 2017-11-25 07:27:54 2017-11
```

10. What post type is most observed on Indomie Page?

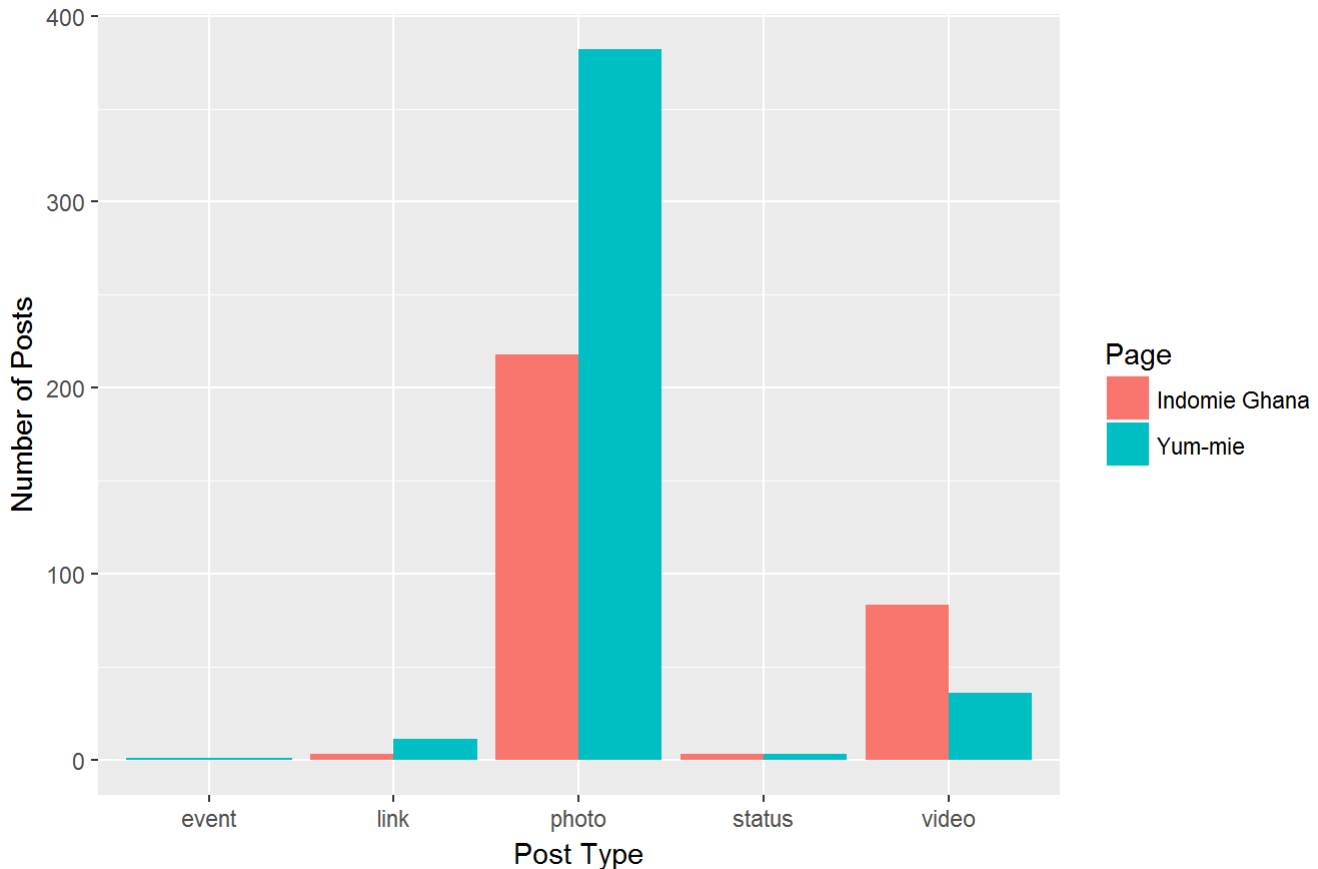
```
names(Yummie)[5]<-"Post_Type"
names(Indomie_Ghana)[5]<-"Post_Type"
Indomieplot<-ggplot(Indomie_Ghana,aes(x=Post_Type,fill=Post_Type))+geom_bar(position = "dodge")
Indomieplot+ labs(title="INDOMIE POST TYPE", y="Number of Posts", x="Post Type", caption="Data Source: Facebook_Indomie_Ghana")
```



11. How does Indomie Post compare with the competitor Yummie post?

```
index<-c(2,4,5,8,9,10)
data<-rbind(Indomie_Ghana[,index],Yummie[,index])
names(data)[1]<-"Page"
ggplot(data,aes(x=Post_Type,fill=Page))+geom_bar(position = "dodge")+ labs(title="INDOMIE AND YU
MMIE POST TYPE COMPARISON", y="Number of Posts", x="Post Type", caption="Data Source: Facebook")
```

INDOMIE AND YUMMIE POST TYPE COMPARISON

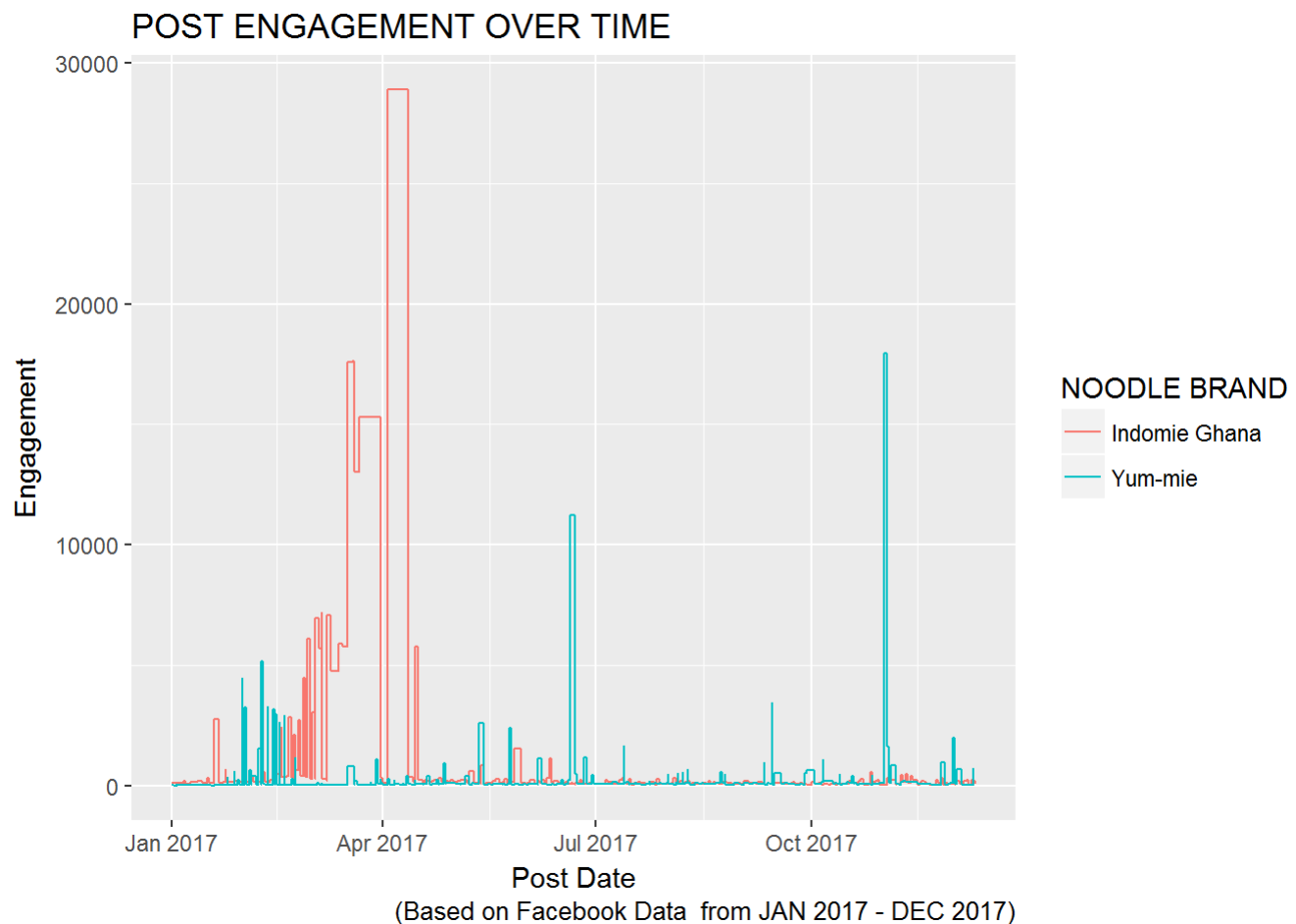


Data Source: Facebook

12. What is the trend of Engagement of Indomie and Yummie for the year?

Engagement is the total likes, comments and shares count

```
Noodle<-rbind(Indomie_Ghana,Yummie)
Noodle$Engagement<-(Noodle$likes_count+Noodle$comments_count+Noodle$shares_count)
ggplot(subset(Noodle,Noodle$from_name %in% c("Indomie Ghana","Yum-mie")),aes(x=as.Date(Noodle$created_time),y=Noodle$Engagement,color=Noodle$from_name))+geom_step()+labs(caption = "(Based on Facebook Data from JAN 2017 - DEC 2017)",title = "POST ENGAGEMENT OVER TIME ",x="Post Date",y="Engagement",colour="NOODLE BRAND")
```



13. How likely is Yummie to post ahead of Indomie**

```
(nrow(Yummie)/nrow(Indomie_Ghana))
```

```
## [1] 1.410423
```

14. What is the percentage difference in post by Indomie and Yummie?

```
a=nrow(Yummie)/(nrow(Yummie)+nrow(Indomie_Ghana))*100
```

```
b=nrow(Indomie_Ghana)/(nrow(Yummie)+nrow(Indomie_Ghana))*100
```

```
a-b
```

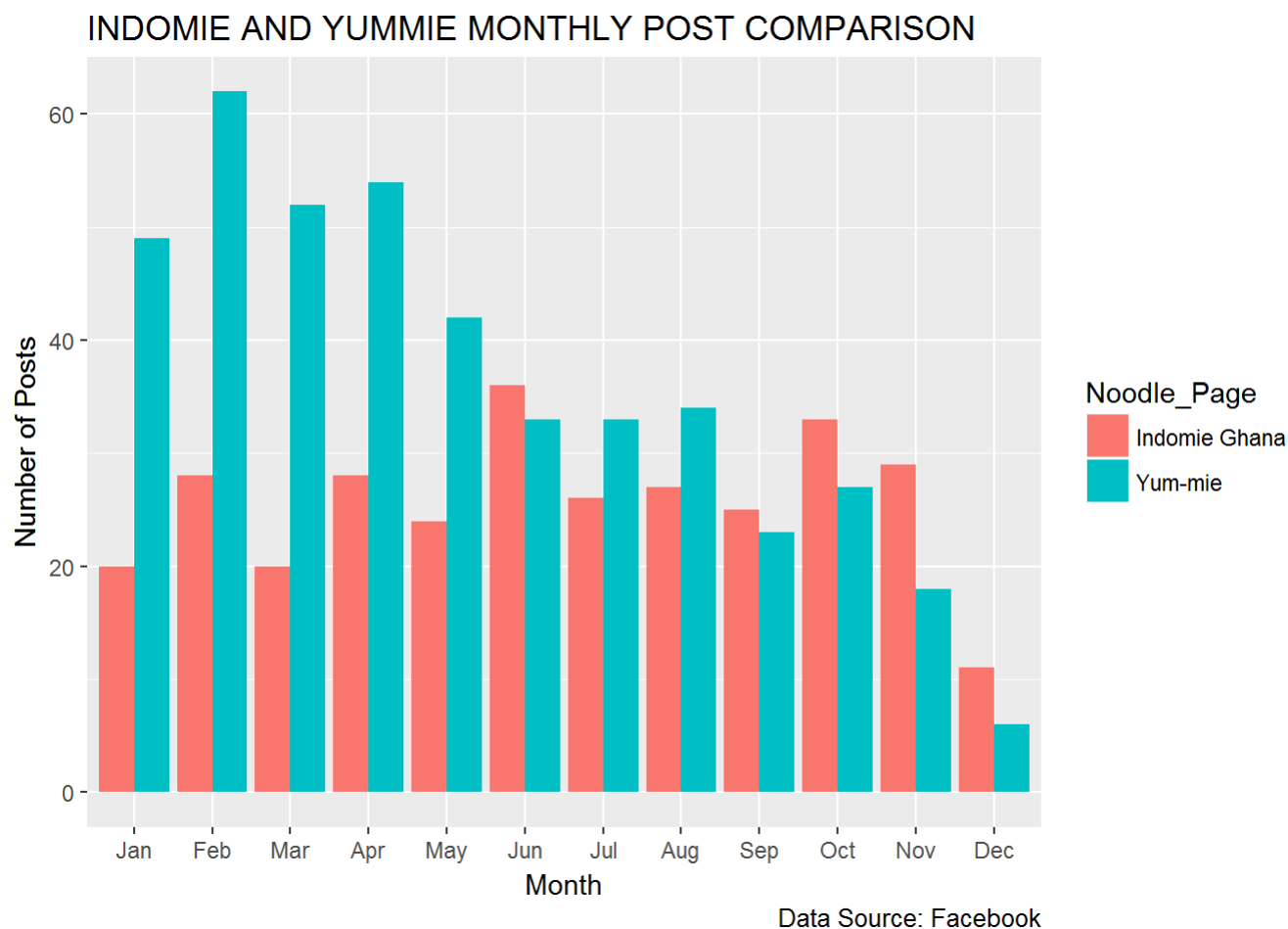
```
## [1] 17.02703
```

15. What is the comparative post per month for Indomie and Yummie?

```

Noodle$Month<-as.Date(Noodle$created_time)
Noodle$mon<-as.numeric(format(Noodle$Month,format="%m"))
save(Noodle,file ="Noodle.RData")
Noodle$mon[Noodle$mon==1]<- "Jan"
Noodle$mon[Noodle$mon==2]<- "Feb"
Noodle$mon[Noodle$mon==3]<- "Mar"
Noodle$mon[Noodle$mon==4]<- "Apr"
Noodle$mon[Noodle$mon==5]<- "May"
Noodle$mon[Noodle$mon==6]<- "Jun"
Noodle$mon[Noodle$mon==7]<- "Jul"
Noodle$mon[Noodle$mon==8]<- "Aug"
Noodle$mon[Noodle$mon==9]<- "Sep"
Noodle$mon[Noodle$mon==10]<- "Oct"
Noodle$mon[Noodle$mon==11]<- "Nov"
Noodle$mon[Noodle$mon==12]<- "Dec"
names(Noodle)[2]<- "Noodle_Page"
Noodle$mon<-factor(Noodle$mon,levels = c("Jan","Feb","Mar","Apr","May","Jun","Jul","Aug","Sep",
"Oct","Nov","Dec"))
ggplot(Noodle,aes(x=mon,fill=Noodle_Page))+geom_bar(position = "dodge")+scale_x_discrete(limits=
c("Jan","Feb","Mar","Apr","May","Jun","Jul","Aug","Sep","Oct","Nov","Dec"))+labs(title="INDOMIE
AND YUMMIE MONTHLY POST COMPARISON", y="Number of Posts", x="Month", caption="Data Source: Face
book")

```



16. What is the average post per month for Indomie and Yummie?

```
#Yummie average post per month  
nrow(Yummie)/12
```

```
## [1] 36.08333
```

```
#Indomie average post per month  
nrow(Indomie_Ghana)/12
```

```
## [1] 25.58333
```

```
dat = data.frame(count=c(26, 36), Noodle_Brand=c("Indomie_Ghana", "Yummie"))  
  
# Add addition columns, needed for drawing with geom_rect.  
dat$fraction = dat$count / sum(dat$count)  
dat = dat[order(dat$fraction), ]  
dat$ymax = cumsum(dat$fraction)  
dat$ymin = c(0, head(dat$ymax, n=-1))  
  
# Make the plot  
p1 = ggplot(dat, aes(fill=Noodle_Brand, ymax=ymax, ymin=ymin, xmax=4, xmin=3)) +  
  geom_rect() +  
  coord_polar(theta="y") +  
  xlim(c(0, 4)) +  
  theme(panel.grid=element_blank()) +  
  theme(axis.text=element_blank()) +  
  theme(axis.ticks=element_blank()) +  
  labs(title="AVERAGE POST PER MONTH")  
p1
```

AVERAGE POST PER MONTH

