

Grassroots Research®

Market Monitor

Shipping trends and the impact of the Russia-Ukraine war on crews – US and Europe

Clear aligners and scanners – Germany

Pet food market – China

Smartphone sales – China

Market outlook for four-wheelers – Indonesia

IT outsourcing trends – US

Shipping trends and the impact of the Russia-Ukraine war on crews – US and Europe

To gauge the current supply situation and whether a potential change in crews could affect the global supply chain, Grassroots commissioned interviews with representatives of shipping companies and freight forwarders in the US and Europe. Sources reported that the demographic makeup of average crews is a mix of nationalities, and the average number of crew members on ships is 20. Among sources who commented, 93% were unaware of any changes in the percentage of crew members who are Ukrainian or Russian since the Russia-Ukraine war began, while 7% were aware of such changes. Prior to the war, crews reportedly were made up of an average 36% Ukrainians and 13% Russians, relatively flat since the war began. In addition, 83% of sources who commented were not

aware of any issues with the ability to hire crews since the war began, while 11% said there have been issues, and 6% were unsure. As to the global supply chain, 51% who commented said the war has not affected it, while 40% said it has, and 9% were unsure.

Regarding the current supply situation of shipping slots, 82% of sources who commented said it is tight, while 18% said it is adequate. In addition, 67% who commented said the supply situation has remained stable vs. 4Q 2021, while 27% said it has loosened, and 7% said it has tightened. Looking ahead, sources' expectations for the rest of 2H 2022 are mixed.

As to the current supply situation of containers, 80% of sources who commented said it is tight, while 20% said



it is adequate. In addition, 65% who commented said the supply situation of containers has remained stable vs. 4Q 2021, while 31% said it has loosened, and 4% said it has tightened. Looking ahead, sources' expectations for the rest of 2H 2022 are mixed.

Clear aligners and scanners – Germany

Grassroots commissioned interviews with representatives of orthodontic and dental practices in Germany to assess how demand for clear aligners has been trending in general. Since the beginning of the year, demand has been trending up for 55% of sources, driven by social media, increased willingness among older patients to spend on self-care, an increase in product awareness and price cuts for Invisalign (Align Technology), while demand has been trending flat for 45% due to increasing competition from competing brands as well as clear aligners being limited in their ability to treat complex cases.

When asked about the most important reason to choose a brand of clear aligners to prescribe, 50% of sources cited brand reputation due to an increase in the number of untrustworthy brands entering the

market, while 15% each cited service/convenience and superior technology. Meanwhile, 53% who commented said Invisalign is superior to competitors due to outcomes as expected and perfectly matching bite planes, while 47% said it is in line in terms of technology, but it is more expensive.

Looking ahead, 95% of sources do not plan to change their clear aligner brand, as they are satisfied with their existing solutions, while 5% might add a cheaper brand for light corrections. One source commented, "I have no plans to change my aligner brand or add another brand in the next 12 months or even in the next couple of years. The learning process is intense and requires a lot of training time." In addition, 94% who currently use a scanner do not plan to change brands, while 6% are facing replacement needs.

Pet food market – China

To check on brand awareness and positioning of foreign and domestic pet food brands in China, Grassroots commissioned interviews with managers/owners of large-scale pet food retailers and distributors. In the dog food category, sources said the best-selling foreign brands are IAMS (Procter & Gamble), Royal Canin (Mars) and Hill's (Hill's Pet Nutrition), and the best-selling domestic brands are Wanpy (Yantai China Pet Foods), Myfoodie (Gambol Pet) and Care (Care Pet). In the cat food category, the best-selling foreign brands reportedly are GO! (Petcurean Pet Nutrition), Orijen and Solid Gold (Solid Gold Pet), and the best-selling domestic brands are Myfoodie (Gambol Pet), Wanpy and Nourse.

Meanwhile, sources reported that Petpal (Petpal Pet Nutrition Technology) has a long history as an OEM in the industry, and its competitive advantages are strong production and R&D capabilities and advanced food safety standards,

while its disadvantages are a relatively short history in the domestic market, limited product variety and weak brand perception. As to China Pet Foods (Yantai China Pet Foods), it reportedly is a domestic leader with a long history as an OEM in the industry, and its competitive advantages are strong production, R&D and distribution capabilities; advanced food safety standards; and a diverse product offering, while its disadvantages are brand perception and lack of appeal to high-end consumers.

Looking ahead, sources expect overall pet food sales to increase an average 22% in 2022 vs. 2021. Domestic brands Wanpy, Myfoodie and Care reportedly are the best positioned to benefit from market growth. In addition, 100% of sources expect domestic brands to gain market share from foreign brands due to their improved quality, product variety, marketing/distribution and competitive pricing.

Smartphone sales – China



Grassroots commissioned interviews with smartphone retailers and mobile service operators in China to examine sales trends and pricing/discounting trends and to assess the inventory situation. In the low-end (less than CNY 1,500 [USD 239]), midrange (CNY 1,500–CNY 3,000 [USD 239–USD 477]) and high-end (more than CNY 3,000) segments, sources' smartphone sales decreased an average 19%, 12% and 8%, respectively, in 1Q 2022 vs. 1Q 2021 due to the sluggish macroeconomic environment, below-expectations performance of the 5G network and lack of significant improvements in technology. Looking ahead, in the low-end, midrange and high-end segments, smartphone sales are expected to decrease an average 13%, 9% and 4%, respectively, in 2Q 2022 vs. 2Q 2021. In addition, 57% of sources expect overall smartphone sales momentum to decrease going into 2H 2022, while 23% expect it to increase, and 20% expect it to remain flat. The macroeconomic environment and availability of new technology reportedly are the key drivers of smartphone sales, and the high-end segment is expected to be more resilient, as high-end consumers are less sensitive to economic fluctuations and eager to use new technology.

As to market share, in the high-end segment, sources said the Apple iPhone 12 and 13 continue to dominate and gain share – at the expense of Huawei (Huawei Technologies) – followed by the Honor (Shenzhen Zhixin New Information Technology) Magic 4 and Xiaomi 11. In the

(Cont. on page 3)

(Cont. from page 2)

low-end and midrange segments, domestic brands, such as Honor, OPPO (OPPO Electronics), Xiaomi and Vivo (BBK Electronics), reportedly are gaining share, while other smaller domestic and international brands are losing due to price, reputation and distribution disadvantages.

Meanwhile, 57% of sources said current inventory in the smartphone market is too high, particularly in the low-end and midrange segments, while 33% said it is about right, and 10% said it is too low. One commented, "Our current inventory of low-end and midrange smartphones is too high vs. the normal level. Sales in 1Q 2022 slid more than we anticipated. Recent widespread COVID lockdowns will further depress sales in the next few weeks. We have already taken action to optimize our inventory." In the next three months, 70% of sources expect inventory to remain stable, while 17% expect it to improve, with various corrective measures, including lowering order volumes and launching sales promotions, and 13% expect it to deteriorate.

Regarding price-cutting, sources reported that smartphone models in the midrange segment currently are the most aggressive, led by top domestic brands and smaller international brands. In the next three months, 57% expect price-cutting/discounting to be more aggressive, while 27% expect it to remain the same, and 17% expect it to be less aggressive – as the recessionary economy is unlikely to improve, brands are likely to be more aggressive to maintain or gain sales volume. One source said, "In the next three months, price-cutting will likely become more aggressive, as demand continues to be weak. We will see deeper discounts and more brands joining the price-cutting campaigns." Meanwhile, the most sought-after and highly anticipated new smartphone feature reportedly is the folding screen, followed by 5G, faster charging and Qualcomm/Apple processors.

Market outlook for four-wheelers – Indonesia

To assess sales trends and the demand outlook for four-wheelers, Grassroots commissioned interviews with auto dealers in Indonesia. Eighty-three percent of sources expect sales of four-wheelers to increase in 1H 2022 vs. 1H 2021 and 2022 vs. 2021 – an average 13% and 15%, respectively – mainly due to fewer COVID-19-related restrictions so the economy recovers right before the Eid Mubarak festival, while 7% said flat, and 10% said down – in both cases due to less PPnBM (luxury tax) incentive.

Meanwhile, 40% of sources said the current level of discounting/promotions – in the form of discounts and cash back – is flat vs. the same period last year, while 30% said it is higher, and 30% said lower. When asked about the impact of a potential interest rate hike, 77% said it would have no or minimal impact on demand for four-wheelers or consumer

purchase intentions, primarily because the vehicles are becoming more important and there are extended discounts from leasing companies, while 23% said such a hike would hinder demand, as the economy is still struggling in the wake of the pandemic.

As to electric vehicles (EVs), 60% of sources reported that they are not gaining traction vs. a year ago due to high prices and insufficient charging stations. One source reported, "EVs are not popular yet, because people need time to adapt to the new technology, as many still have the mindset that conventional gasoline vehicles are safer, because you don't have to worry about running out of battery in the middle of nowhere with no charging station available. Regarding pricing, it is actually relative, as EVs might have their own market segment."

IT outsourcing trends – US

Grassroots commissioned interviews with IT managers at companies in the US that outsource IT operations to see if they are reevaluating where their IT work is sourced, based on recent geopolitical events. One hundred percent of sources currently source work from third-party IT firms, while 13% also source from first-party IT firms, and 7% are considering sourcing from first-party firms.

Among sources who commented, 64% use maintain services (infrastructure managed services, hardware managed services, application managed services and business processing outlook) from IT firms, while 36% use both maintain and build services (consulting, solutions building and implementation, infrastructure as a service, and infrastructure utility). Meanwhile, 53% use onshore IT service providers, while 47% use both onshore

and offshore IT service providers, primarily in India.

As to recent geopolitical events in Central/Eastern Europe, 57% of sources who commented said such events have not led to a reevaluation about where IT services are outsourced. However, 43% who commented are reviewing where IT services are outsourced and/or discussing their locales as a result of these geopolitical events. One source said, "It definitely does have us reevaluating, and this is just the beginning. We are only looking at the tip of the iceberg. We are looking at it internally, and we are evaluating all vendors. We are concerned and going through the process of evaluating. We have a few in Eastern Europe, and I am uncovering what the allocation is to Russia."

About Grassroots Research®

Grassroots® services are unique to Allianz Global Investors. The Grassroots Research® division combines 5 in-house employees, a global network of over 300 independent, experienced journalists and Field Force researchers, and more than 50,000 industry contacts. We use this network to apply innovative market research and investigative journalism techniques to identify stock and sector trends before our competitors do.

Advantages:

- 30+ years of experience conducting customized investigative market research around the world.
- Utilizes expertise of independent journalists and Field Force Investigators to reach sources on the ground.
- Utilizes technological tools to target consumer and business panels online and to extract alternative data from the Web.
- Continuous exchange of information between Grassroots® analysts and our investment professionals.
- Provides timely business insights via quick turnaround times.

Resources:

- Access to thousands of consumers in more than 60 countries via targeted online consumer and business panels.
- 50,000+ industry contacts worldwide from a wide range of industries, including consumer, technology, healthcare, materials, industrials, energy and financials companies
- 300+ Field Force Investigators who conduct quantitative market research among consumers
- 60+ reporters who conduct interviews with industry experts
- In-house team in San Francisco and Hong Kong

Grassroots Research®

Head of Grassroots Research:
Michele Rumfola

Editor/Writer:
Heather Sprung

Grassroots® Market Monitor is published quarterly by Grassroots Research®, a division of Allianz Global Investors.

Allianz Global Investors
555 Mission Street, Suite 1700
San Francisco, CA 94105
USA

phone: 415.954.5400

email: grassroots@allianzgi.com

online: www.grassrootsresearch.com

Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. [*] Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security.

The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction or transmission of the contents, irrespective of the form, is not permitted. This material has not been reviewed by any regulatory authorities. In mainland China, it is for Qualified Domestic Institutional Investors scheme pursuant to applicable rules and regulations and is for information purpose only. This document does not constitute a public offer by virtue of Act Number 26.831 of the Argentine Republic and General Resolution No. 622/2013 of the NSC. This communication's sole purpose is to inform and does not under any circumstance constitute promotion or publicity of Allianz Global Investors products and/or services in Colombia or to Colombian residents pursuant to part 4 of Decree 2555 of 2010. This communication does not in any way aim to directly or indirectly initiate the purchase of a product or the provision of a service offered by Allianz Global Investors. Via reception of this document, each resident in Colombia acknowledges and accepts to have contacted Allianz Global Investors via their own initiative and that the communication under no circumstances does not arise from any promotional or marketing activities carried out by Allianz Global Investors. Colombian residents accept that accessing any type of social network page of Allianz Global Investors is done under their own responsibility and initiative and are aware that they may access specific information on the products and services of Allianz Global Investors. This communication is strictly private and confidential and may not be reproduced. This communication does not constitute a public offer of securities in Colombia pursuant to the public offer regulation set forth in Decree 2555 of 2010. This communication and the information provided herein should not be considered a solicitation or an offer by Allianz Global Investors or its affiliates to provide any financial products in Brazil, Panama, Peru, and Uruguay. In Australia, this material is presented by Allianz Global Investors Asia Pacific Limited ("AllianzGI AP") and is intended for the use of investment consultants and other institutional/professional investors only, and is not directed to the public or individual retail investors. AllianzGI AP is not licensed to provide financial services to retail clients in Australia. AllianzGI AP is exempt from the requirement to hold an Australian Foreign Financial Service License under the Corporations Act 2001 (Cth) pursuant to ASIC Class Order (CO 03/1103) with respect to the provision of financial services to wholesale clients only. AllianzGI AP is licensed and regulated by Hong Kong Securities and Futures Commission under Hong Kong laws, which differ from Australian laws.

This document is being distributed by the following Allianz Global Investors companies: Allianz Global Investors U.S. LLC, an investment adviser registered with the U.S. Securities and Exchange Commission; Allianz Global Investors Distributors LLC, distributor registered with FINRA, is affiliated with Allianz Global Investors U.S. LLC; Allianz Global Investors GmbH, an investment company in Germany, authorized by the German Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin); Allianz Global Investors (Schweiz) AG; in HK, by Allianz Global Investors Asia Pacific Ltd., licensed by the Hong Kong Securities and Futures Commission; ; in Singapore, by Allianz Global Investors Singapore Ltd., regulated by the Monetary Authority of Singapore [Company Registration No. 199907169Z]; in Japan, by Allianz Global Investors Japan Co., Ltd., registered in Japan as a Financial Instruments Business Operator [Registered No. The Director of Kanto Local Finance Bureau (Financial Instruments Business Operator), No. 424], Member of Japan Investment Advisers Association, the Investment Trust Association, Japan and Type II Financial Instruments Firms Association; in Taiwan, by Allianz Global Investors Taiwan Ltd., licensed by Financial Supervisory Commission in Taiwan; and in Indonesia, by PT. Allianz Global Investors Asset Management Indonesia licensed by Indonesia Financial Services Authority (OJK).

[*Subject to change – depends on the content of the material which may mention certain investment instruments that involve particular risk]

The Grassroots Research® division of Allianz Global Investors commissions investigative market research for asset-management professionals. Research data used to generate Grassroots Research® reports are received from independent, third-party contractors who supply research that, as far as permissible by applicable laws and regulations, may be paid for by commissions generated by trades executed on behalf of clients. We believe these sources of information to be reliable and are providing the information in good faith, but in no way warrant the accuracy or completeness of the information. We have no obligation to update, modify or amend this document or to otherwise notify you in the event that any matter set forth in this document changes or subsequently becomes inaccurate. In addition, information may be available that is not reflected at this time. We accept no liability whatsoever for any direct or consequential loss or damage arising from your use of the information contained in this document. We and our affiliates, officers, employees or clients may effect or have effected transactions for our or their own accounts in the securities mentioned here or in any related investments. Any reference to a particular company shall not be considered an offer to sell, the solicitation of an offer to buy or a recommendation to buy, sell, or hold any security issued by such company. No part of this material may be i) copied, photocopied, or duplicated in any form, by any means, or ii) redistributed without prior written consent. 2247674